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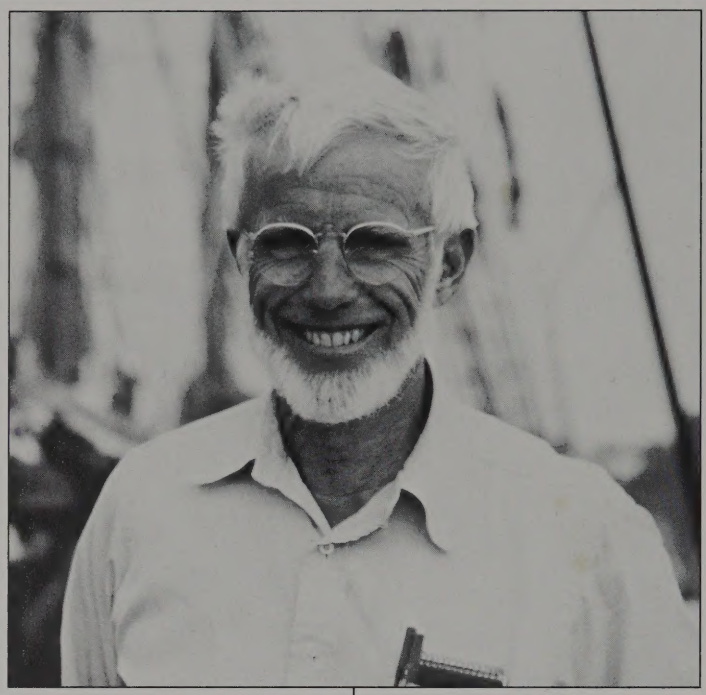

Dr. George Nichols, Jr. (ORES photo)

ABOUT THIS ISSUE

There she was, in all her wooden majesty, in the spring of 1983—in drydock near the ORES headquarters in Gloucester, Massachusetts. We had come to see her hoping to go aboard, but major repairs were underway and, to our disappointment, we couldn't. But we got a good look at her, and we could see how beautiful she was. Still, did her beauty alone explain the mystique that surrounded the research vessel *Regina Maris*? We spent some time interviewing George Nichols for the profile that appeared in the Fall 1983 *Whalewatcher*, and we began to get a glimmer of understanding. We weren't prepared, however, for the response we encountered to Peter Bryant's suggestion that we do a special issue of the *Whalewatcher* on *Regina Maris*, nor for the depth and breadth of the articles we received. Neither of us has sailed on *Regina*, but as a result of working on this issue we have been touched by her mystique.

As we have worked on these pages we have laughed (surely Ken Balcomb's journal entries represent some milestone in the art of understatement); we have been moved by such things as Judy Perkin's lyrical description of one of *Regina*'s voyages; we have been surprised at the nearly mystical effect this ship has had on some of her otherwise impeccably scientific passengers; and we have shed some unexpected tears. We have marvelled at what it could be about this vessel that would bring people back time after time to sail on her in spite of the often dreadful conditions that had to be endured. Each of the authors in this issue tries to articulate, in his or her own way, just what it *was* about *Regina*... none can actually capture it, though perhaps Steve Katona comes the closest in his discussion of "shipsoul."

We are grateful to those who contributed to this issue: to the authors, some of whom found it most difficult to choose what to share; to the photographers who made our job of choosing among the many exquisite images of *Regina* a tough one; to Peter Bryant, Steve Katona, and Judy Perkins, who helped shape the issue. Most of all, of course, we are grateful to George Nichols and his dream.

Sherryl Taylor
Patricia Warhol

ABOUT THE COVERS

Front cover: Regina Maris in full sail. (Photo by Ken Balcomb)
Back cover: Regina Maris at anchor in Washington Bay, Alaska. (Photo by Peter Bryant)

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The American Cetacean Society, a non-profit organization, has a threefold aim: education, conservation, and research. Our primary interest is marine animals, but we recognize the interdependence of all marine life, as well as the need to protect the ocean environment.

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Tribute to *Regina*

by Steven Katona

Somehow wood, steel, cable, rope, and scores of other inanimate materials and parts create a living thing when they are fastened together to make a ship. I have often wondered why ships have souls but cars, trucks, and skyscrapers don't. I think the explanation is the intensity of bonding between people and ships, starting with the slow handwork required for their construction and continuing with the round-the-clock involvement necessary for sailing them. I think their souls grow each night. As each watch ends, people sleep the strange shipsleep, so far away, so full of dreams. And as they do, pieces of their souls slip away and stick to the ship, while fragments of accumulated shipsoul fall off and stick to the people. All this happens easily in the small, dark bunk, and the ship's gentle rocking stirs everything together so that pretty soon peoplesoul and shipsoul are all tangled up and neither party feels complete without the other, ever.

But no matter how alive and ensouled ships are, they have not yet learned to speak in words, so their stories must be told by the people they carry over the sea.

This issue of *Whalewatcher* is dedicated to the story of the barkentine *Regina Maris*. Of all the ships that have sailed the sea, *Regina* is among those that have contributed most to the world's whales. The last eight years of her active life were directed to the study of whales. Nearly everyone who came aboard brought a passion for studying those animals and a commitment to work for their preservation. *Regina* sailed over 100,000 miles, pursuing whales not for meat and blubber, but for songs and photographs.

When *Regina* began her quest you could have counted the number of whale researchers with your fingers and toes. There are hundreds now, but a surprisingly high number can trace their interest back to *Regina Maris*, either through participating in an Ocean Research Education Society (ORES) cruise or working with someone who did. The North Atlantic Marine Mammal Association (NAMMA), founded in 1980 at the suggestion of *Regina*'s Master, Dr. George Nichols, still fosters collaboration throughout the North Atlantic region on projects to which *Regina* contributed so much. A recent handcount indicated that at least one-third of NAMMA's members had sailed on *Regina*.

I hope that this issue does more than summarize the scientific accomplishments of a ship, significant though they were. I hope that you will see what *Regina* meant to some of the people who couldn't stay away from her. Maybe you know some of the contributing authors, and already know the extent to which their souls merged with *Regina*soul and whalesoul. Maybe you shared one of her voyages and some of your soul is tangled up with her, too, perhaps in the crow's nest or on the bowsprit or in a cozy bunk. Whoever you are, I know that after reading these remembrances you will join us in thanking Dr. George Nichols, Jr., the ORES staff, and the captains, crew, and scientific staff of *Regina Maris* for making these voyages possible.

r/v Regina Maris. (Peter Bryant)

Steven Katona is Dean of Faculty at College of the Atlantic and Director of Allied Whale, which houses the catalog of North Atlantic humpback fluke photographs.

Regina Maris

by George Nichols

Both Ann and I feel honored that the *Whalewatcher* wants to put out an issue devoted to the work done by ORES and all the folk who worked so hard and devotedly on its behalf and that of the whales during its brief lifetime. To be asked to write a few words about *Regina Maris*, our pelagic home, is especially welcome since it makes me feel a part of the "action" and obviates any possibility of feeling I am attending my own funeral which such a "memorial" volume might otherwise engender. One other thing: since I am writing this piece in New Zealand far from my notes and records I must warn the reader that what is here is what I remember and so must be taken for what it is—a few recollections and impressions, not necessarily a true history.

She was a dim shape barely perceived as we hurried past down the wharf in the waning light of a chilly English November afternoon. Peter Seamans and I had driven to Southampton to inspect the schooner *America* and we wanted to see her before the next rain squall drove us to shelter.

It was not really until we were walking under *Regina*'s bowsprit back to the car that I realized that this was the barkentine whose picture had appeared in so many brokers' ads. Curious about whatever inspired anyone to own such a ship I asked if we could visit. Stepping aboard was to step back into time. On deck everything was massive work-boat, from the windlass to the spars towering up into the darkness. Below we walked into Victorian elegance gone to damp, mould, and decay. The engine room was a jumble of rusty, partly torn-down machinery. The whole impression was "disaster" and neglect. How was I to know that I would sail her for eight years?

Ten months and dozens of rotting and rotten vessels later I was back in London still searching. *Regina*, despite all her troubles, was nearer to the working vessel we were looking for, for our whale research and teaching, than anything else I had seen. High bulwarks, plenty of bunks, and lots of room on deck to handle the oceanographic gear we planned to use were appealing enough to warrant a low offer, provided she passed survey and was indeed put back into working order to fulfill a movie contract the owners had accepted.

Five months of negotiations later Ann and I were in Piraeus with a volunteer crew fitting her out for the passage home. Before that none of us had ever sailed a square-rigger, but by July 20th, when our first class set off with us for Newfoundland, we had learned to sail and have confidence in our elderly vessel from making our way across the Mediterranean and in the Tall Ships races from the Canaries to Newport plus all the parades surrounding our Bicentennial. Her special magic we would learn about in the months ahead.

A bit of history may be of interest. *Regina* was built as a three masted schooner in the O. Ring Anderson shipyard in the town of Svendborg on the Island of Foyn in Denmark for a Swedish owner in 1908. The yard is still considered an excellent builder of both steel and wood ships. *Regina*, as she was named for the maiden sister of the builder and the wife of the first owner

(Judy Perkins)

George Nichols. (Don Patten)

(hence the Swedish spelling of Regina with an "a" not an "e"), was the 100th ship built in the yard. For that reason she was launched with her masts stepped and much ceremony—an occasion which was very nearly a disaster, for the launching cradle collapsed as she started down to the water. That she landed upright and intact was taken as a sure sign of a lucky vessel, which history seems to have confirmed. A picture of her just taking the water for the first time appears in the yard's Centennial volume along with photos of her builder and a family group in which the original Regina sits four square in the front row.

Working out of Malmö on Sweden's west coast, the ship carried lumber and general cargo entirely under sail between various European ports until the early '30s when she was converted by her second owner to a motor ship. Whether she ever went further than Iceland and the Mediterranean no one seems to know, but similar ships regularly traded with Canada and the USA in the early years of this century. The only person who might know more, her third skipper, was reported elderly and not very well to me three years ago. Efforts to contact him failed.

As a motor vessel she continued to carry cargo until an engine room fire in the '50s caused her two-man crew to abandon her off the island of Bornholm in the Baltic. Although this might have been her end, a Russian trawler came along, rescued the crew, and put out the fire before towing the remains into the port of Ystad.

There she remained an abandoned hulk for a number of years until she was discovered in the early '60s by two Norwegian ship-owning brothers who bought her, changed her name to *Regina Maris* and had her completely rebuilt as a yacht/training ship in order to make a world voyage in a wooden cargo vessel as their ancestors had done. Perhaps that was when her magic was first noted. When I asked John Wilson years later why he and his brother had picked *Regina* for their project his answer was simply, "She was beautiful!"

It was under the Wilson flag that *Regina*'s life began to get exciting. Their great voyage out to Sydney, Australia for the Captain Cook Bicentennial included a dismasting at sea, a mutiny, and a passage around Cape Horn, among other adventures. The voyage created much excitement. A movie was made of the whole thing which a generation of young Norwegians were raised upon. A photo taken of her arrival off Sydney Heads flying an extraordinary assortment of sails became a poster with persistent worldwide distribution. It served as the art for a Chilean advertising calendar as recently as 1971.

It was a sad day when, after seven exciting years, the Wilsons sold *Regina* to an American syndicate who, after adding a bunch of extra bunks, put her in the Pacific charter trade. The years that followed were hard ones. Long passages out to the islands; overcrowding; inexperienced, underpaid crews; and neglect took their toll, until one day the ship was caught in a hurricane off the Mexican coast with 56 people aboard. A sea flooded the engine room early on, leaving the ship's company no choice but to bail with buckets. Five days later she was abandoned for the second time. The gale had passed by then, but with no engine and a threatening weather forecast the captain felt it wise to request a lift ashore from a passing freighter which, once everyone had been safely removed, promptly put a salvage crew aboard and towed her back to Ensenada. The salvage lien and the suits that followed put her owners out of business and the ship back on the market.

Her next owners were even more starry-eyed and short of funds. Michael Willoughby had a vision of using the ship for adult sail training in British waters and paying for her repatriation by taking passengers on a voyage around Cape Horn for a large fee. Although the trip sold well it became immediately clear once at sea that the ship was in no condition for such an undertaking. Using a need to buy extra fuel as a ruse, Mike took the ship to and through the Canal before admitting to his passengers that they were bound for England the short way. Why he thought they would not catch on or indeed why they took so long to do so has never been clear to me. Anyway, they forced him to put into Jamaica where they all debarked to fly home, meanwhile filing huge suits against the owners and Cooks Travel for false advertising. From then on the story of their ownership was a saga of arrests for non-payment of bills. Four months in Jamaica, a four-month passage home to London for further shipyard work, and arrest for non-payment as they reached the dock in Southampton at the end of their first and only sail training cruise—ten days to St. Malo for a Tall Ships rally. My first visit came three months later at that same wharf where she stayed for nearly 14 months, grounding out on every low tide.

Since others will be covering the scientific aspects of our years with *Regina* as well as many other details, a simple summary of the ship's voyages between April 1976 and October 15, 1984 when she was retired from service will suffice:

1976 Piraeus to Boston via Gibralter, Teneriffe, Bermuda, and New York.
Boston to Newfoundland and Labrador and return.
1977 Boston to Silver Bank and return via San Juan, Puerto Rico and Bequia.
Boston to Newfoundland and Labrador and return.
1978 Boston to Silver Bank to Miami.
Miami to Punta Arenas, Costa Rica via the Canal, the Galapagos, and Cocos Island.
Punta Arenas to Mazatlan, Mexico.
Mazatlan to La Paz via the Sea of Cortez as far north as Puerto Citos just south of the northern end.
1979 La Paz to Bahia Magdalena and return.
La Paz to Socorro in the Revillagigedo Islands and return with a visit to Puerto Vallarta.
La Paz to San Pedro, California.
San Pedro to Juneau, Alaska.
Juneau to Seattle via Glacier Bay and the islands.
Seattle to San Pedro via San Francisco.
San Pedro to Puerto Plata, Dominican Republic via Cocos Island, Panama, and Haiti.
1980 A winter on Silver Bank with return to Boston via eastern Bahamas.
Summer in Massachusetts Bay.
Boston to Gulf of Paria and Barbados.
1981 Barbados to Silver Bank for the winter season with return to Boston via eastern Bahamas.
Boston to West Greenland and return.
Boston to Puerto Plata via eastern Bahamas.
1982 Silver Bank for the winter with return to Boston via Washington D.C.
Boston to West Greenland and return.
Boston to Puerto Plata via eastern Bahamas.
1983 Silver Bank for the winter with return to Gloucester via Nassau and Bermuda.
Gloucester to West Greenland and return.
Gloucester to Puerto Plata via eastern Bahamas.
1984 Silver Bank for the winter with return via Charleston and New York.
Massachusetts Bay and Georges Bank until retirement in Gloucester.

A few other statistics may be of interest:

Many have asked how many miles the ship sailed under our ownership. Frankly I have no idea although I expect it was in excess of 100,000 miles. Indeed I believe I personally logged near that figure in her and I only sailed aboard about half the time in the later years.

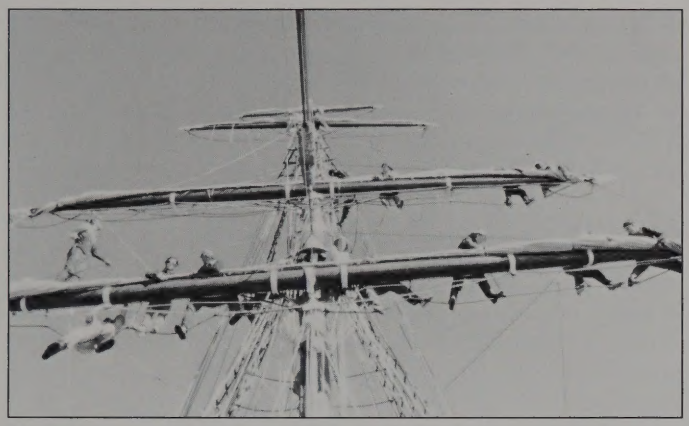
Over 1,000 different people passed through our programs and the ship. While most were college students, a number were older men and women already embarked on careers of many kinds, who joined us for reasons ranging from a love of whales or sailing to a desire to escape into a new and different world. Nearly all the 50 states and 7 or 8 foreign countries were represented. A host of different colleges and universities granted their students academic credit for the work they did with us. Although the majority of these folk had little if any knowledge of the sea or its life when they came, many still pursue marine related careers, a good number related to whales, I am happy to say. I am especially proud of the small but significant number who have gone on to earn advanced degrees, MAs and PhDs in marine sciences, after a start with us.

One of the questions I have often been asked is why we picked *Regina Maris* for our work. Her rig, her age, and her rather lurid past all frightened us, but she was all that was available that fitted our needs and that we could afford. It was as simple as that! Ordinarily one might have expected any choice based on such reasons to be the disaster sagely predicted by a number of self-appointed pundits when news of our purchase became public. But to everyone's surprise she proved quite the reverse.

First, she turned out to sail, and sail well, in light as well as heavy weather. She was maneuverable, predictable, and capable, we discovered, of things no strictly fore and aft rigged vessel can do: box hauling and sailing backwards into docks, for example. Most important, she was an outstanding sea boat. Mike Willoughby told me one day, "You will find you can stand about on deck with your hands in your pockets in a Force 8 gale," and he was right. Time after time she carried us in comfort and safety through conditions when a lesser vessel might well have succumbed. Hove-to she would slide steadily to leeward, leaving a huge slick to weather which always flattened every breaking crest before it ever reached her. We learned of this quality early. Twice in one passage she took us through storms with 80 knot winds unscathed. After that I never worried again until age created other problems that made her retirement imperative.

As a platform for our research she was nearly ideal. Her tall spars and yards provided superb observation platforms from which to spot and observe whales, while her wood hull transmitted ship sounds so poorly to the water that she was unusually well suited for the acoustic work we planned. This characteristic may also have been why whales seemed to accept her presence with such equanimity. It was always far easier to approach a whale with *Regina* despite her slower response to helm and engine than with the more maneuverable *Rambler*. The latter is steel and a much better transmitter of engine noise, etc. which seems to make the whales wary.

Speed was never a concern; instead, we needed a ship that could stay at sea for long periods without exhausting her student crews, a ship able not only to survive all kinds of weather but also to be able to work under adverse conditions. Sail boats are far better work platforms than motor vessels of comparable size, for their sails keep them steady enough for handling heavy oceanographic gear on deck safely long after the motion of a motor boat makes such work impossible. *Regina* was especially good in this regard. Her great weight (over 450 tons) and tall spars made for easy motion, while her square sails made it possible to stop in a moment by simply throwing the fore rig aback, hold the vessel steady on station as long as was needed to handle nets and other gear over the side, and start her on her way again by simply bracing the yards around. Doing this simple maneuver we repeatedly did stations in winds of 25 to 30 knots in the open sea without a single injury to a student or crew member.



Furling the sail on Regina Maris. (Peter Bryant)

Time and again in the weeks before we commissioned *Regina* I was warned that I would never be able to find people willing to lay aloft to handle sail and all the other arduous and seemingly dangerous work required of a seaman in a square rig. What we found, of course, was that the young men and women of today relished perhaps even more than their forebears the challenge to their minds and bodies that the work presented. Our problem was to get the students and crew off the ship when their voyage aboard was ended!

This special magic of *Regina* showed itself in many ways. We always had four or five applicants for every vacancy in our volunteer deck-hand roster. Many returned two, three, or even more times to serve aboard, many advancing through the ranks to being bosun and mate. This devotion to the ship kept cropping up as former crew from all over the world would hear of our work or see the vessel and write me of their experiences aboard or visit with us to talk about "their Ship!" each contributing a bit more of her history as he or she told his tale. It seems that no one ever forgot her once they had been to sea in her no matter how long ago. One day in 1981 we were lying at the then very new maritime museum dock in Halifax, Nova Scotia. A very new student (we had only been underway a few days on a voyage to Greenland) was deck watch when an elderly man rode up on his bicycle and proceeded to look the ship over with great interest in his clearly practiced eye. Finally, he approached our student and asked in rather broken English whether the ship's name had always been *Regina*. The student replied he thought so. Whereupon the old man said with a knowing smile as he climbed onto his bike and rode off, "I thought I recognized her! I served my apprenticeship aboard in 1927 when she was still a schooner."

Her magic was evident in other ways, too. There are a number of marriages about that began on *Regina:* a Wilson daughter was married aboard. Ann and I formalized our union from her decks, as have a number of others. She was a much valued home for our children in their first years, too. Even now both speak of her often and whenever possible visit her to make sure all their favorite nooks are still there as they remember them.

Another aspect was her value as a symbol for unifying the Society's membership and as a fundraising tool. Loyalty to *Regina* was what brought many to our membership roster and kept them there year after year helping meet the ship's needs with money or work or both far beyond what anyone could reasonably expect.

When I planned this piece my intention was to write a bit about a few of our voyages in the ship that stand out in my mind, but when I began to think what should be included I found that what kept coming to mind was not the voyages, not the remote and beautiful places, not the spectacular experiences with whales, but the people...The Ken Balcombs, the Rich Mulas, the John Wigglesworths, the Bill Mabes, the Judy Perkins, the Peter and Toni Bryants, the Paynes—mother, father, and son—the Patty and Kevin Chus, the Tex Kilduffs, and all the rest...who by sharing with us the ship, the sea, and themselves made each trip possible and memorable.

I have already spoken of the pride we have in those who have stayed with whales, the sea, or have gone on to advanced degrees in marine science. But much, much more came our way from those with whom we were privileged to sail. The words "shipmate" and "watchmate" have a special meaning, a meaning which involves shared experience, confrontation leading to compromise, competition leading to concern to teamwork, cooperation leading to mutual respect, kindnesses exchanged, and that special loyalty which dangers shared and conquered brings to all. We had the privilege to be shipmates with a remarkable group aboard *Regina*. The ship somehow bound us all together in a way that persists and will continue for the rest of our lives despite the enormous diversity of our ambitions, life styles, and successes. It is this that made each voyage a thing to remember.

Why did it all end? Very simply, the problems of maintaining an elderly wood vessel in condition to go to sea in remote and stormy waters under all conditions were always there. As the years went by they grew in number and the cost of solving each grew even more. Insurance became ever more difficult to obtain and more and more expensive. When Van Alan Clark, our greatest, most generous, and tireless supporter, died I began to wonder how long it would be possible to go on even with the continuing generous and most loyal support of his family. Then I began to note that despite all the repairs, we had to pump bilges more and more in weather that previously had never presented any problem. When Evan Logan, our relief skipper, admitted he shared my concerns about her, we both knew the inevitable end had come.

The rest you know. *Regina* was retired after a final two week voyage to Georges Bank in early October 1984. She remained the property of the Society until November 1987 when she was sold to a group in Quincy, Massachusetts. She now has a permanent berth at their waterfront condominium development where she is clearly visible to perhaps soothe the minds and spark the dreams of the traffic-bound commuters on the Southeast Expressway. *Vale!*

"Forsan et haec, memenisse juabit!"

George Nichols was Founder and President of the Ocean Research and Education Society (ORES) and Master (Captain) of Regina Maris.

Expeditions to the Caribbean

by Ken Balcomb

4 January 1977

After an extensive refit and innumerable delays, r/v *Regina Maris* pulled away from Lewis Wharf and motored out of Boston Harbor at 1500 today. A small crowd of well-wishers and a TV cameraman gathered ashore in a light snowfall as the crew, students, and carpenters huddled on deck in silent goodbye. I think nobody thought it possible that we would ever set out to sea, especially to the North Atlantic in the dead of winter. We hadn't planned to be so late, but numerous unavoidable delays since mid-November had destroyed our schedule and created disbelief that this old wooden ship would ever be anything but a dockside curiosity, complete with a cast of colorful characters. Dr. George Nichols, our captain, knew that we would leave—his constant effort had made the whole program possible, and his charge through every delay was sooner or later going to get us going. I also knew that we would leave, and that the final moments would pass quickly, so with each delay I got more and more prepared to depart.

As if by grand design, when we finally did cast off, we had just about everything we will ever need in the science program—from lathes to radio tags to hydrophones and motor driven cameras. We also had a floating cetological library that is first rate. The laboratory, which we will construct underway, will be superb. It is above decks, spacious, and divided into two parts—wet and dry—which will house the diving gear/photolab, and electronics shop/library, respectively. In short, we have everything, including fine people, that is necessary for the near impossible task ahead: to photo-document and follow a significant number of humpback whales from the "wintering grounds" of the tropical Western North Atlantic to the "summering grounds" in higher latitudes. If we are successful, we can then have greater confidence about estimates of population, stock integrity, and migration routes than we now have and we can make meaningful recommendations to national and international organizations for conserving these magnificent creatures.

By sunset at 1635, we were off Thieves' Ledge heading for the Cape Cod Canal. The seas were quite calm, as if to bid us fair passage.

5 January 1977

Sunrise was at 0730, by which time we were through Cape Cod Canal and Buzzard's Bay and out into the North Atlantic to about 41°N x 71°W. The weather was still remarkably fine so we ran with the light breezes and the main engine due south toward the Gulf Stream and warmer climates. The water temperature all day was 7° to 8° C and the air was 2° C.

Sometime around noon the main engine threw out an oil seal and quit running. Our speed dropped from about six knots to one knot as we barely wafted along in the diminishing wind. The only working bilge pump runs off the main engine, so we had a little problem there.

At 1645, a loose school of 50+ *Delphinus delphis* came toward us from the south and played around us for awhile. It looked funny to see them wheel around in front of the bow as if to catch our pressure wave, and then almost halt as they found there was none to ride.

Sunset occurred as the dolphins arrived and we were approximately at 41°14' N x 71°0' W. It appears that we will not be able to get the main engine running at sea. I guess that means we are going into port—the question is, where? In the old days they sailed these ships everywhere, and I'm sure that George can do it, too. I just wish we had more going for us right now.

6 January 1977

Sunrise found us drifting at 40°09' N x 71°43' W, or thereabouts. The Coast Guard has not yet found us, but they are looking. When they find us it is said we will be towed to Long Island. The seas are miraculously small for this time of year—only about 2 feet. If it were rough we'd really be uncomfortable, so we can count this as a blessing, really.

Shortly before noon we were found. But by then our main engine was running again—Rich Mula, Jim Goebel, and I collected the hot leaking oil in a coffee can under the engine and dumped it back in through the oil filler at intervals frequent enough to keep us going. Since we didn't need a tow, but our condition was still awkward, the Coast Guard escorted us as we motored toward Newport, Rhode Island.

We arrived in the middle of the night and anchored off the Newport Shipyard. The weather had treated us beautifully all day and evening, allowing us to reach port in relative comfort and in good time. Our thanks are due the U.S. Coast Guard for standing by until we were safely inshore.

7 January 1977

By morning it was snowing a sticky wet snow that blanketed everything. The anchor was weighed right after breakfast and we motored over to the shipyard pier. Immediately upon arrival the shipyard crew took out all of the defective motors to be repaired, and they started working on repairs of the main engine leak.

By evening a veritable blizzard raged outside, and those of us who did their drinking in the afternoon huddled below decks in the cold dampness of the ship and listened to it blow. Even though we were tied to the dock, the ship rocked and tossed as if we were in a gale far at sea. In the early evening, the ship's anemometer pegged consistently at 50 knots, and later we learned that a record 94 knot gust was recorded ashore.

8-11 January 1977

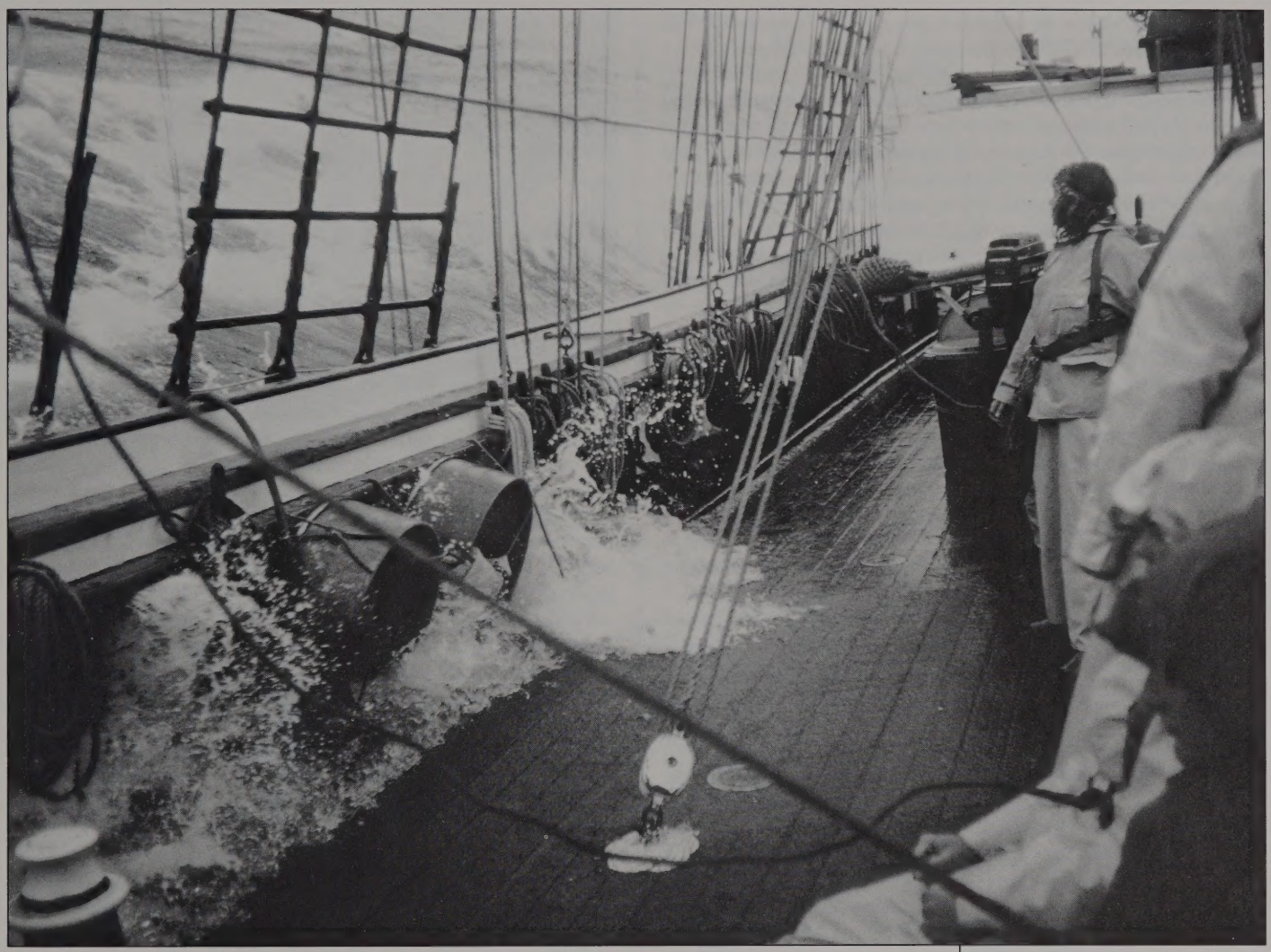
In Newport Shipyard. Blizzard conditions.

12 January 1977

The engines were started at 1030 after all repairs had been completed and all last minute shore details were taken care of. Small craft warnings along the coast call for freezing spray today, with 15 to 25 knots of wind. It should be miserable out there—we shall soon see.

At 1110 we cast off from the dock of the Newport Shipyard, and by noon we were clear of the harbor with stays'ls up and the iron spinnaker purring away. At last, we're off to Puerto Rico and sunny climes.

Outside, all afternoon and night, we were "Seasick Maru" as we clashed with the seas and laboriously made our way South. The decks and rigging were frozen over, requiring that we frequently break off the ice with sledge hammers and mallets and



Force 9 gale. (Peter Bryant)

cast it overboard, lest we become topheavy and capsize. We expected that, as did the sailors of yesteryear who ventured out onto the North Atlantic in winter.

During the night the seas built to mountainous size; as the ship tossed and rolled in furious gyrations, everyone's clothing was pitched upon the deck and saturated with fuel oil and bilge water that sloshed up the side of the ship, over the ceiling, and across the deck. The stench below was almost unbearable, but the real aggravation was having all of our warm clothing and foul weather gear saturated with the stuff, so that the stench was always with us.

13 January 1977

It snowed in the afternoon, but by midnight we had apparently entered the Gulf Stream—the water temperature rose dramatically to 20°C from the 3–5°C it had been. Apparently, one can go out on deck in shirtsleeves, but I haven't done it yet. It is now 0100 on the 14th, and I'm preparing to finish cleaning the cabin deck to see if I can rid us of these fumes.

14 January 1977

We were definitely in the Gulf Stream—I could comfortably stay aloft for two hours (0830-1030) this morning in spite of a stiff westerly breeze. I searched the port forward quarter to a distance of three or four miles with binoculars and naked eye, and saw no whales or marine mammals. There were about a dozen ringed gulls with us through the morning, one with crude oil all over the belly. I'm hoping to see sperm whales soon, as we approach the Charleston Ground of Yankee whaling days.

Our noon position was 35°47' N x 70°54' W. By nightfall we were really into lousy weather. The seas piled up to 20 feet and more, and it blew a bloody gale out of the Southeast. The ship pounded and tossed into it all night as the wind came slowly around to Southwest, building very confused seas. As usual, the bilgewater cascaded across the deck and throughout the ship bearing its foul smell. The decks topside were dangerously awash, and many things broke loose, including a bucket of pine tar in the main deck hatch. It dissolved the calking and oozed through the deck and dripped onto the port table and bunks in the new saloon. Gawd, it was incredibly messy stuff! It also covered the main deck and, no doubt, whatever was in the main hatch with it—3 inflatable boats, outboard motors, etc. The stench makes it nearly intolerable to stay below deck, and the slippery dangerous awash conditions make it awkward to survive above—one could easily be washed overboard in the heavy seas that rolled across the decks.

15 January 1977

It was still rough at breakfast, so I just had a few pieces of orange and hit the bunk for awhile. The saloon was a scene of misery—dripping seawater and pine tar from the overhead; bilge water and fuel oil sloshing across the floor; sad, wet, seasick faces sitting around a bowl of oatmeal from which the spoon could barely be removed, it was so pasty. The main bilge pump won't work and the bilge is full, so folks rotated pumping the hand pump on deck. I got into it for awhile—it was fresh air on deck, and the activity was good as well as useful.

Our noon position was 34°56' N x 69°15' W, about 400 miles on our way and 1000 to go. We're past the storm that we went through last night, but we've got another one coming up tonight. This is crazy!

In the evening we saw another ship plodding southeast. We did not feel like we were all alone then, but I still wish we were in Puerto Rico already.

16 January 1977

The storm raged all night, causing a few moments of terror, but abated by morning and it was time to assess the situation and put things in order. Our noon position was 32°29' N x 68°29' W, 813 miles miles from Puerto Rico. We are all looking forward to getting there.

In the late afternoon we scrubbed the decks to remove pine tar, fuel oil, lube oil, etc. that had accumulated. Jerry Brown, the bosun, and the watch section cleaned the main hatch and restowed it. It was a mess getting the pine tar off of all of the gear, but paint thinner did the trick. Fortunately, the seas were not too rough and the weather was clear but partly cloudy for our chores. Spirits were up considerably by the end of the day when cleanup was finished. When we changed filters we shut down the main engine, so George had the sails hoisted. It was very mellow to sail along at sunset with the feeling of being cleaned. We can take another storm now, but I hope it is a little one. One is due tonight—they must spawn out here.

At the evening meal we learned a few more details about the storm we went through night before last. George says it was a no-kidding Force 12 hurricane wind, and it rocked us a full 45 degrees over port and starboard in its fury. At one point the spray from the bow went as high as the fore-top-mast (80 feet). A container ship reportedly broke apart somewhere to the west of us.

17 January 1977

It was rocking and rolling enough to make sleep difficult all night. As usual, fuel oil and bilge water sloshed across the decks and the stench was suffocating. Most of the day was lumpy, too. We've passed through the region of three gales a week into the region of two gales per week—Big Deal!—it is still rough all of the time.

Dinner was very good roast pork, mashed potatoes, apple sauce, etc. For dessert we had cherry pie, *sans* crust. It seems that Adolph, our cook, accidentally dropped the crust dough on the deck and then stepped on it before he could pick it up. The rest of the dinner also fell on the deck, but apparently it was more concealable than a grimy footprint in the pie crust. Anyway, dinner turned out well—the best meal of the expedition thus far.

18 January 1977

It stayed rough most of the night with occasional squalls, and then it calmed down with morning. I spent the day in the engineroom with Rich Mula and Jim Goebel, trying to get things running.

Our noon position was 28°13' N x 67°09' W, which by my calculations puts us 819.11 miles out of Newport, Rhode Island and, more importantly, 600.62 miles from Cape San Juan, Puerto Rico, which bears 170.5° T. We could make it by Saturday noon, or sooner if the engines keep running.

(Camille Goebel)

Morale was running high in the evening, perhaps because of the good weather and one beer per person allowed by Captain George.

19 January 1977

The seas are building again today under a steady NW blow. The engines are still running, though, so we should be able to pump bilges and keep headway even if it does get terrible again. It sure is monotonously lousy out here.

It calmed briefly in the morning, but only long enough for the winds to swing around to the southwest and blow like hell. The seas were very confused and building. Our noon position was 27°17' N x 66°00' W, or about 537.49 NM from Puerto Rico. That may be as close as we ever get, because we went backward from noon on. We aren't in a storm, we are in a whole string of them, and they are howlers. Most people got out on deck to enjoy the first couple of them—seas crashing over the bow and rails, and spray enough to shower everybody at once. Pass the 'Joy' around, we'll all get clean (and salty!). I took one shower, then helped Rich shut down the main engine to check the oil and reset the valve cover gasket. Then I took another shower in the spray and ran around snapping pictures with my Nikonos. The afternoon storms were getting more ominous as the day progressed. The winds were 50–60 knots between storms, and 80 or more knots in them—and the seas were getting huge! It was getting fearful again. George took the helm for awhile at supper, lest we be buried under a mountain of water. The lee rail was buried continuously, and it took expertise to simply keep us from broaching or plowing under.

This stuff went on into the night, going from bad to worse. Water cascaded into the ship through every unplugged hole and down the ladders. As I sat at my desk, 3 three-inch waves of water rushed across my feet with every roll. It was quite frequently terrifying as we were set literally on our beam; but always *Regina Maris* righted and plowed ahead in stride. Oh, sometimes she would reel recklessly during a particularly complex combination of motions, but always she felt strong. Still, I could not sleep for fear that at any time we would broach and swamp, leaving the ship a watery tomb from which escape must be immediate, if at all.

20 January 1977

It is now 0230 as I write these notes, and we are still afloat! I thought things had calmed down a bit in the last half hour, but just a bit ago we went through some hellacious motions that suggest the helm was lost temporarily. Even now I'll bet we're rocking a full 45 degrees from upright, and hundreds of gallons of water are crashing down the ladder well. The rails must be alternately inundated. My feet got sloshed again by another wave that poured through the ceiling. Stuff is clattering to the deck in the galley. Come on big horse! Get us to Puerto Rico... if we make it, I promise to never go anyplace like this again. One storm a month is as much as I will stand for.

We survived the night, and saw the seas diminish to an acceptable state by noon. To everyone's surprise, we'd even made some progress—to 26°05' N x 65°46' W. The seas last night were 30+ feet, with an occasional 50 footer—let's hope that we don't get into any bigger ones ever. The ship always felt sound (but wild), and I've implicit faith in George's seamanship, but I don't trust this damned ocean! One of these troughs could be bottomless, so far as we're concerned.

The afternoon was lumpy, but clear and pleasant sailing with a following NW wind. We're keeping the main engine running because it runs the bilge pump also, and we need that. Dinner was the best food that we had in thirty hours, and very little of it rocked upon the deck, or went uneaten. Adolph complained that everybody showed up to eat, with a disproportionate number at second sitting— but everyone got fed.

21 January 1977

At last! A full day of reasonably good weather. Our noon position was 23°39' N x 65°56' W, only 319.60 NM, 176.4° T to San Juan. No more storms are reported to loom before us, so we should make it by Sunday night.

22 January 1977

Our noon position was 21°10' N x 64°40' W, about 177.7 NM on 197.1° T to San Juan, by my calculations.

23 January 1977

At 1500 we motored into the harbor as crowds gathered on the headlands and promontories of the fort to watch us. Ann saw a whale just before we entered the harbor. No dolphins came to escort us. At 1530 we tied off at the Coast Guard station and almost everybody went ashore for a little while. A bunch of us gathered at the "club" and had a few beers. Tours were given of the ship to interested Coast Guardsmen, and at 1830 we all had a party aboard ship. By then it was raining ferociously, obviating the need for a freshwater washdown.

We all had a good night's sleep, tied safely to the dock. Tomorrow, work routine starts at 0800.

Thus began r/v Regina Maris *expeditions to the Caribbean Islands and shallow banks, which were the historically known wintering grounds of the Western North Atlantic humpback whale population. Conditions improved considerably for students and crew and the ship, once the sun soaked in and the whales were found. The latter were found in most abundance on Silver Bank, north of the Dominican Republic. Accordingly, this bank was the primary winter research area each year for* Regina Maris *expeditions until*

Pages from the journal of Ken Balcomb.

Much to my surprise, at 1755, the whoosh of a whale blow beneath me verily lifted me off the cathead and swung my head around to see how close it was. About 30 feet away the dorsal fin and pedunde of an adult whale slowly disappeared as a small calf (ca 18') surfaced, and the big white mittens of another adult whale began to rise. My fleeting glimpse of the descend adult struck a note of recognition ~ i the V-notched one that we h seen on 11 March, and the which had been photographed in North Newfoundland by Randy Wells last sum Far Out, I says to myself as I flew into lab for my camera. From about frame on roll 016, I first got the dorsal fin a little bit of flukes of the other adult; then the dorsal fin of the calf; and finally, four nearly perfect side-view motor shots of V-notched whale. That was a very profita photo-encounter that was initiated entirel by th It is of interest to not that and were

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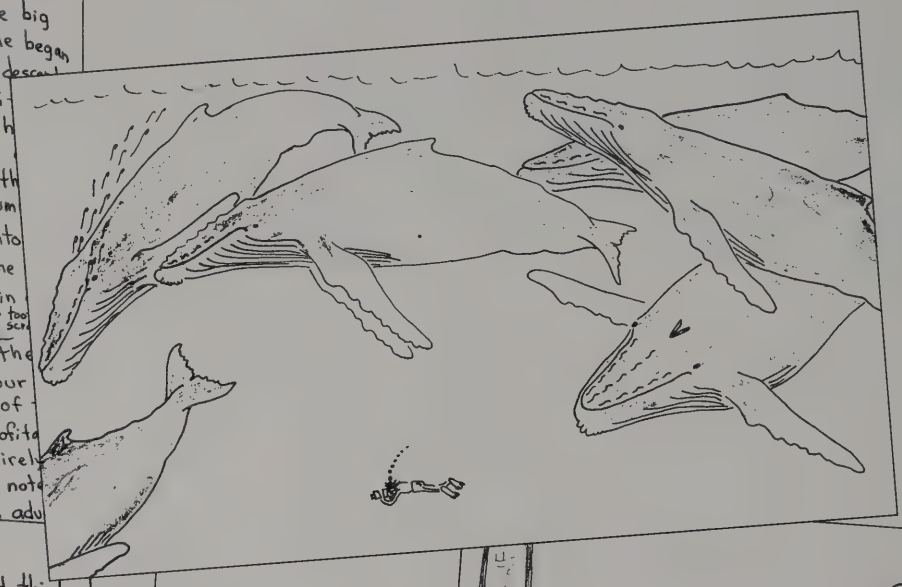
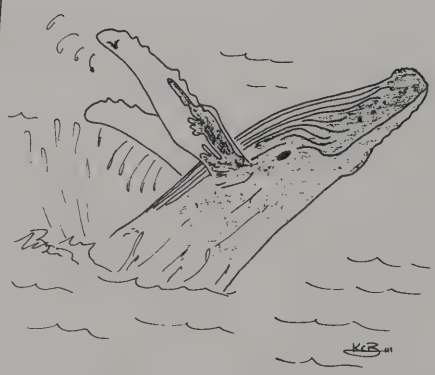
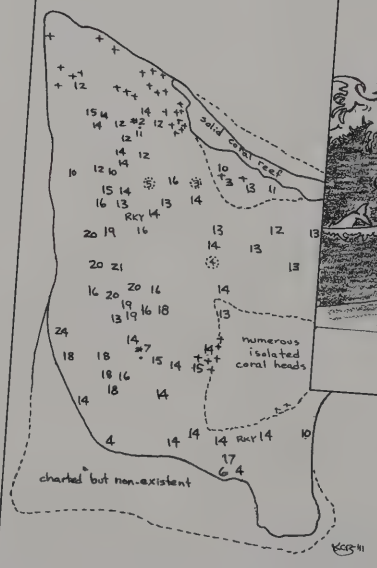


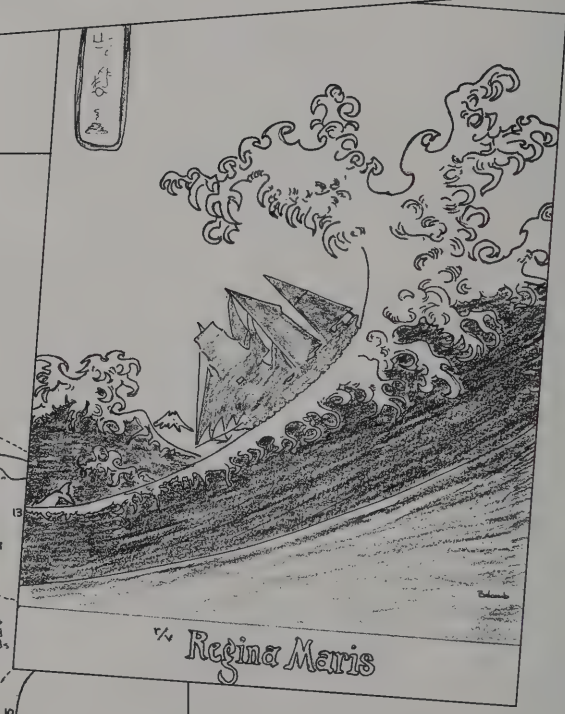
Expeditions thirty-one and thirty-two
of r/v "Regina Maris"
to the breeding and calving grounds
of the Western North Atlantic Humpback Whales
31 Dec 1981 - 12 April 1982



this being the expedition journal of
Kenneth C. Balcomb, III
Chief Scientist, ORES



Silver Bank as sounded by
r/v "Regina Maris"
Jan-Mar 1982 in fathoms



her retirement in 1984. Here follows a few excerpts from later years:

For example, our first attempt to use auxiliary craft for photo-identification:

10 January 1982, Silver Bank

We started out this beautiful cloudless day by putting the deflatable boat over the side to try getting some tail photos using that precarious platform. Immediately the 25hp outboard started running rough, so we replaced it with the 15hp outboard and headed north about three miles to try to get photos of a lobtailing solo. The 15hp, of course, started running rough once we were well away from the ship, and it quit entirely when we got near the whale. We could see the ship, so there was really no danger. Besides, the engine had quit under duress, and there was every reason to believe that it would run again. It eventually did, and we limped back to r/v *Regina Maris* just in time for lunch. Oh well, it is only half a day gone by.

The afternoon (about *Regina Maris*) more than made up for the false start of the morning. We first went after a trio of whales, one of which stayed near the surface and acted agitated at the other two. All three fluked frequently, so it was a good bet to follow them. The agitated whale had a small bite out of the hind margin just to the left of the notch, and it was of approximately equal size (to the other two). Its flukes were mostly white with two short black scratches on the starboard side. One of its companions had dark flukes with a grayish splotch on the starboard side. As we followed these whales we saw two rowdy groups of LOTS of other blows within three miles. One of the rowdy groups came conveniently close to us so we turned toward them.

As it turned out we didn't have to go very far. They came over and ran a couple of circles around us so we stopped. Then they played "Ring Around *Regina*" for awhile, charging around and around us like a frolicking school of dolphins. I counted eleven whales on the surface at once, and I suspect a twelfth was tagging along underneath. I don't know how long they did that, but it was at least a half a dozen revolutions. Then I jumped into the water and joined them. They swam around and around me, at first excitedly as they had been, and then slower and more inquisitively. I hung upside down over them and made noises in the water. Visibility was not good, so they had to get within a whale length for me to see them very well. Several times the whole procession did so...underneath and alongside me.

Some of the whales left, but six of them kept on circling, so one by one most of the people on *Regina* who wanted to swim with whales got their chance. At one point all of the whales swam directly at us, and one faced me and gave a trumpeting scream before abruptly diving fifteen feet in front of me. I dove with it, but of course could not keep up as it plunged toward the bottom. I don't remember if I took any pictures as we faced off—I was pretty excited. The trumpeting scream must have been very directional because Jennifer, who was about thirty feet to my left, did not hear it.

Well, we all went swimming with them until the ship had to leave to find an anchorage for the night. As we left, the whales charged along behind us like dolphins again. When we anchored about four miles further south, they charged around and around us again. When the anchor was securely set and the light was fading I went back into the water to see if I could swim under them and identify their sex. They would not let me get under them, but they all faced me at one point, and as I dove down they excitedly dove and turned away. At that point I was able to see that one at least was a male. By then it was getting kinda spooky and shadowy, and George started talking about shark-feeding time, so I got out. The whales moved off a bit anyway. I don't think they liked me as much as I liked them. All of this stuff really happened today, but what does it mean?

In the evening, Denise (Herzing) and I did the dishes in the sweat hot galley, and afterwards I climbed out to the tip of the bowsprit to cool off and watch the clouds pull a blanket across the moon. To the north the sky brightened in flashes of lightning from the thickest clouds. A storm is approaching, but for now it is calm with gentle waves to rock us to sleep. From my perch in the furl of the flying jib the world looks altogether well.

Later our successful attempts using auxiliary boats for photo-identification, with Steve Katona, David Mattila, Richard Sears, Greg Stone, Phil Clapham, and Kelley Balcomb:

20 February 1984

The weather remained beautiful today, even though the breeze picked up to about 15 knots. We got underway with *Regina* at 0959 after launching the deflatables, and I got on the bowsprit. Immediately we found an active trio of adults—I believe two males and a female. One male, the outside animal, was pushed away by the other male every time it tried to get close to the female. The female blew much less frequently than the other two and seemed very relaxed about everything.

At 1119 we had two cows with their calves approach one another and then veer off at about 50 feet apart. One of the calves was tiny and gray and its fin was laying clear over on the portside. I estimate it was *very* recently born. The other calf was more blackish gray, though it too was small and the fin was slightly bent...10 days old! (I estimate). Interestingly enough, the only escort we observed arrived with the gray calf mum and left with the black calf mum.

After lunch we found a reasonably friendly pair of whales, so Sal and I jumped in and the pair swam around us for at least three minutes in super clear water. One thing was very apparent—same as yesterday—the male was always the closer animal to me and it would get between me and the female when I swam toward her. We swam around with these whales until 1409.

After leaving those two, we went for a cow/calf/escort that were lobtailing. The cow had a notchfin, but I didn't get a very good photo of it. Steve and David saw her too, and thought she might be the one we saw yesterday; but that one didn't have a calf. We worked around with these for awhile until 1434, and then we headed closer to the reef to anchor.

We anchored at 1558 and had a swim call. I came below to write my notes. When Steve and David came in, Steve raved about swimming with a pair that was probably the same pair that Sal and I swam with. Steve also noted that the male would not let him get near the female...was even aggressive about it. David touched his flipper, however, and it immediately drew it back. Later Richard Sears also went in with this pair, but in that encounter one of the whales went straight to the bottom and singing commenced. Then the other whale swam to the bottom and both swam away. Little bits and pieces of behavioral observations may someday add up to a story.

21 February 1984

Time just keeps marching on. It seems like every day we raise the anchor, I go out on the bowsprit, the Zodiacs go their way; in the afternoon we anchor; in the evening we process 16 rolls of film and write our notes; and then we crash completely out. Next day it's just the same. I've shot and developed forty rolls of film, plus developed many more for the Z-crews, and haven't had time to contact or print yet!

What did we accomplish?

Over the years we surveyed virtually the entire range of humpback whales in the Western North Atlantic, from Venezuela to Greenland. In their breeding areas around the Caribbean Islands we found by far the largest numbers of whales on Silver Bank, north of the Dominican Republic, where at least 2,000 could be found during the peak season in mid-February. ORES collaborating scientists and students contributed hundreds of photo-documentations of individual humpbacks to the North Atlantic Humpback Fluke Catalog. In collaboration with other researchers we found that some whales move from area to area in the breeding/calving season, mixing with whales from more or less discrete feeding aggregations from higher latitudes. In the same breeding group we found whales from Newfoundland, Greenland, Iceland, and New England, presumably all contributing to the gene pool. The evidence supports the hypothesis that the humpback whales of the Western North Atlantic form one breeding population, though not all whales go to the breeding/calving areas in any given season (perhaps only about half do).

Humpback flukes. (Ken Balcomb)

The mark-recapture evidence from photo-identifications indicates the breeding population is probably more than 5,000 whales during the middle period of our study, and it is apparently increasing. This is all good news to us concerning a beleaguered and endangered species. Of course, the whales probably would have done just as well without our having knowledge of them. Nonetheless, this knowledge provides an important perspective for our species when we evaluate natural and man-induced perturbations to their population (witness the significant mortalities this past fall and winter around New England).

When we began the study in 1976, the scientific literature estimated that only 800 to 1,200 humpback whales remained in the North Atlantic; there was no evidence for defining the population; and there was great concern for its survival. Things look a lot better now, for the whales and our concerns.

Unfortunately, as I write, *Regina Maris* rests on the bottom of Boston Harbor. I dearly hope that she is raised successfully and is remembered for being the remarkable ship that she was for so many people. Being such a unique vessel in many respects aside from her antique age, it seems only fitting that we should somehow keep her alive, too.

I would like to give my sincere thanks to all of the students, crew, and contributors who made the *Regina Maris* research years possible, and my special thanks go to Dr. George Nichols and his relief captains (Ben Baxter, Steve Cobb, Henk Van Beever, Bill Mabie, Evan Logan, Larry Kilduff, and John Wigglesworth) who steadfastly held that dear old ship together and sailed her through it all. Actually, they couldn't have done it without the help of some very hardworking engineers, most notably Rich Mula, who endured more than anyone I ever knew, for longer than anyone would have thought imaginable. Rich, Skip McCoy, Kim Smith, and the other engineers kept the bilge pumps going when it really mattered. Last, but not least, we all can thank the cooks who kept us fed during the good times and especially during the bad times when their job must have been pure hell: Ann Ratcliff (Nichols), Jen Pennoyer, Danny Bariess, Jeff Powell, and Nicola Wadsworth (Bloedel).

Ken Balcomb, Director of the Center for Whale Research, Friday Harbor, Washington, was Chief Scientist for ORES.

Life on *Regina Maris*

by James Perran Ross

A Rough Passage

The basic plan seemed sound enough. Pick the gap between late hurricanes and early fall gales, wait for a passing front and ride the northeaster across to Bermuda. Our skipper, Bill Mabie, a Camden, Maine native and former mate on *Regina*, felt that we could make up time lost in a lengthy yard period in Gloucester and our crew and complement of students were all eager to go. Easily said, but the land seems to put out sticky strands to delay a sailing ship and I never knew one yet that could keep a schedule, least of all *Regina*.

But at last we were ready to go—out to sea with a last glimpse of Gay Head light fading in the fog as the promised Northeast front picked up.

Things went well at first. The three days delay had allowed the student crew to settle to their tasks, their watch mates, and the ship's routine. Sails were set, sheets hauled home and *Regina* rollicked forward with bone in her teeth, Bermuda-bound in the evening of the 8th of November 1980, running with a Northeast gale.

How to tell of that crossing? It was fast—I grant you that; Gay Head light to Saint David's light in four and a half days. Four and a half days of hell.

The wind blew 30, 40, up to 50 knots and on up from there. By the morning of the second day we had *Regina* trimmed down to a storm trysail on the mizzen boom and a staysail forward and she still made 6 or 7 knots. The great, gray, spuming seas rose up astern like mad whales, *Regina*'s stern rising, rising, rising, then the sudden rush and surge as she plunged her jibboom into the sea and ran like a surfboard down the face of each wave as it passed. That is where you had to watch her on the helm as she would try to broach across the foaming mountains of water. It was two hands at the wheel, lashed in, for half hour tricks and beaten black and blue by the spinning wheel spokes at the weary end of each watch.

The wind howled and the sea roared and the sleet and spray blew horizontal and stinging into your eyes and *Regina* rolled and creaked and of course she leaked. *Regina* always leaked, usually just a little. But the workings of those eighty year old timbers and fastenings opened up seams and dribbles and squirts, and the water came in everywhere. Nowhere very much but everything was wet. The water sloshed around the bilge and ran up in foul gushes into your bunk. The water ran down the walls and conduits and into the electrical junction boxes starting smoky little fires. The water dripped down your neck and dripped into your food and decks and soles were a slimy mush of bilge and spilled food.

Four hours on, eight hours off, at least in theory. But when half the students are sick and terrified and things break loose and blow out, then it's all hands. Never mind that you just got off to sleep, huddled in your damp blankets, or that you must take your turn again in just two hours. Up and out. Blown out sails to cut away and replace, blocked pumps to clear, smouldering junction boxes to disconnect.

The worst was doing a trick on the wheel. *Regina* had a very direct cable steering drive and so when the waves surged up and hit the rudder the wheel would kick and buck and it took two people to hold it. When it got away from you it would spin and pummel you with the spokes as you tried to regain control and the ship would swerve across the seas and take a great roll and the water would crash across the deck three feet deep. That's where I nearly ended a promising career.

We took over the watch at midnight of the third night, tired, sore, and afraid of that wheel and its bruising spokes. There were small signs of progress—the water sloshing across the deck was warm and filled with phosphorescence indicating our passage beyond the Gulf Stream. We had become used to 50-knot winds and fifteen foot seas, and battled numbly from watch to watch counting our blessings in a cup of lukewarm soup or a last pair of dry socks.

I took the wheel with another, and fearful of the spinning spokes decided not to clip my safety harness to be free to dodge the bruises. As so often happens it takes a new helmsman a minute or two to find the balance point with the wheel, usually the cause of a transient wiggle in the wake; this time and with these seas a momentary exposure to death's door. My vivid recollection is that realizing we were slightly off course I looked to windward to see an immense wave cresting over the bulwarks broadside on. I had time to realize there was green water breaking high up the ratlines even as *Regina* rolled away from the huge sea and then I was swept off the wheel. It is a somber moment when you realize that you are afloat, in a storm, in winter, in the mid-Atlantic and that your companions will not be able even to turn the ship, let alone come back and look for you. If you go overboard out there you are dead. It was quiet and the water was surprisingly warm and I was beginning to make calculations about kicking off my sea boots when my flailing arm clunked into something hard and painful. The sound came back on and I realized that I was within the confines of the bulwarks, inside the boat. Afloat and within a foot of being carried over and out but—this time at least—safe.

Regina has never, to our knowledge, had a death on board or lost a crew member to the sea. This is remarkable in view of her long history and the very real hazards of large sailing ships. While she was uncomfortable in a heavy sea, she was also an excellent sea boat with the gull-like ability to float over rather than through the waves that ship designers hope for but cannot ensure. She carried many hundreds of us safely to our destinations through everything the ocean could throw at us. I logged 20 voyages and thousands of miles on *Regina* and I don't regret a minute of it.

James Perran Ross, an Instructor for ORES and a Scientist aboard Regina Maris, *is now Program Director of Earthwatch, Inc., Watertown, Massachusetts.*

Regina Maris in Southeast Alaska

by Peter J. Bryant

August 1979

The objective of *Regina Maris* Expedition #16 to Southeast Alaska was to study and document the "bubble-net" feeding behavior of humpback whales, which had been originally discovered in 1929 by Ingebrigtsen and more recently described and photographed by Charles Jurasz, Sylvia Earle, Al Giddings, and Roger Payne. In bubble-net feeding, the whale locates a swarm of food organisms and dives about 50 feet below it. It then swims in a tight helix around the prey toward the surface, expelling a stream of bubbles from the blowhole which makes a cylindrical curtain around the prey. As the prey are alarmed by the bubbles, they congregate in the center of the bubble net, and the whale completes the behavior by lunge feeding through the aggregated prey at the surface. The behavior is thought to be used on both fish and krill.

We planned to visit Glacier Bay, Frederick Sound, and other areas of Southeast Alaska in order to study bubble netting. George Nichols, President of Ocean Research Education Society and Captain of *Regina Maris*, invited me along as guest scientist. Research assistant Karen Miller and my future wife Toni Boettger helped the students plan and carry out their various research projects. One of the main questions was whether bubble netting was associated with krill feeding, fish-feeding, or both, and whether the "mesh" of the net—that is, the size and density of the bubbles—was varied to suit the type of prey. We planned a very elaborate series of observations, measurements, and acoustical studies on bubble netting, but we saw so few bubble nets (only about six altogether) that this project was simply not possible. We concentrated instead on studies of the behavior of the whales, and of their geographic distribution in relation to the availability of krill.

The year of our expedition had seen a dramatic decline in the number of humpback whales using Glacier Bay. According to observations by Charles Jurasz, between 20 and 25 individually recognized whales were observed each summer during the period from 1967 to 1977. Some whales usually arrived in early June and the remainder in late June or early July, according to Greg Streveler. They would then usually leave the bay in September. In 1978, nineteen whales entered the bay at about the usual time, but all except three left after only 16 days. In 1979 only about six whales arrived in early June and soon left the area, and although several animals were observed at the bay entrance at a time appropriate for the second influx, only three remained in the bay. We were in the bay for two days and confirmed that only three whales were present.

We saw many more whales in and around Frederick Sound; the estimated number using this area was 80 in 1979, about the same as in previous years. We never saw the kind of bubble-net feeding that was made famous in the *National Geographic* articles of January 1979. We observed a different kind of bubble netting, involving a much smaller cylinder of bubbles about 15–20 feet in diameter. The bubbles did come to the surface sequentially in a circle, so the whale certainly must have been swimming in a circular path. However, this was followed not by a spectacular lunge through the center of the circle but, rather, by the whale surfacing quietly at the edge of the circle of bubbles. We speculated that this might be a version of the bubble net that was used on krill, whereas the larger type may be used when the prey consists of much faster-swimming schooling fish.

Frederick Sound was a wonderful place to observe other kinds of whale behavior, especially breaching. One animal breached 50 times in a row as it sped across the Sound! We formed the opinion that this kind of multiple breach was simply a way for the whale to take deep breaths while swimming at top speed. Dolphins do this—why not whales? We got to know some of the whales individually by both markings and behavior patterns—including some that became curious about the ship and swam around under the jibboom, one that would lie on its back slapping the surface alternately with one flipper and then the other after every dive, and one that trumpeted like an elephant with each blow! We also had plenty of opportunities in Frederick Sound and other parts of Southeast Alaska to watch other marine mammals including killer whales, Dall's porpoise, harbor porpoise, harbor seals, and Steller's sea lions. Birds sighted included marbled murrelets, northern phalaropes, bald eagles, and surf scoters. The tidepools were full of surprises, including sea cucumbers, giant barnacles, sunflower starfish, and huge hermit crabs. Some of the wildlife, including humpback salmon and Dungeness crab, provided delicious feasts for the crew and students!

Regina was a beautiful, majestic vessel, and looked very much at home in the timeless, unspoiled scenery of Southeast Alaska. We often went ashore in small boats and were surrounded by the sounds of seabirds, whales, and sea lions. Looking back at *Regina* in the distance, in bright sun and still air on a glassy sea, we imagined ourselves in a different century. The early explorers of the region included La Perouse, James Cook, George Vancouver, and John Muir, and we got some idea of how they must have felt as we explored completely uninhabited islands and coves. As we climbed the mountains separating the fiords, *Regina*, far below us and looking like a toy boat in a bathtub, was the only sign of human presence. We realized, however, that the view would have been very different for those early explorers. Glacier Bay has gradually grown as the glaciers have receded. When George Vancouver first mapped the coast in 1794, Glacier Bay did not even exist—it was completely covered by ice. John Muir explored the Bay in 1879, but it has changed dramatically since that time. The front of Muir Glacier, for example, has receded more than twenty miles since Muir's visit.

Regina was not only an ideal floating whalewatching platform with observation posts at all levels between sea level and about 90 feet, she was also a well-equipped oceanographic vessel. One of the most interesting ways of studying ocean life is to examine the many different kinds of organisms that come to the surface in a plankton tow. We were especially interested in the depth distribution of different potential food organisms, so we used a technique called the vertical plankton tow, in which two large "bongo" nets are lowered to a certain depth and then hauled upward through a specific depth range. A water sampling tube is attached to the nets and can be closed by sending a weight down the line when the nets are at the desired depth. With Karen Miller and Toni Boettger supervising, students participated in plankton tows and in the identification and counting of the krill and other organisms that come up in the nets. We also carried out salinity measurements from water samples at differ-

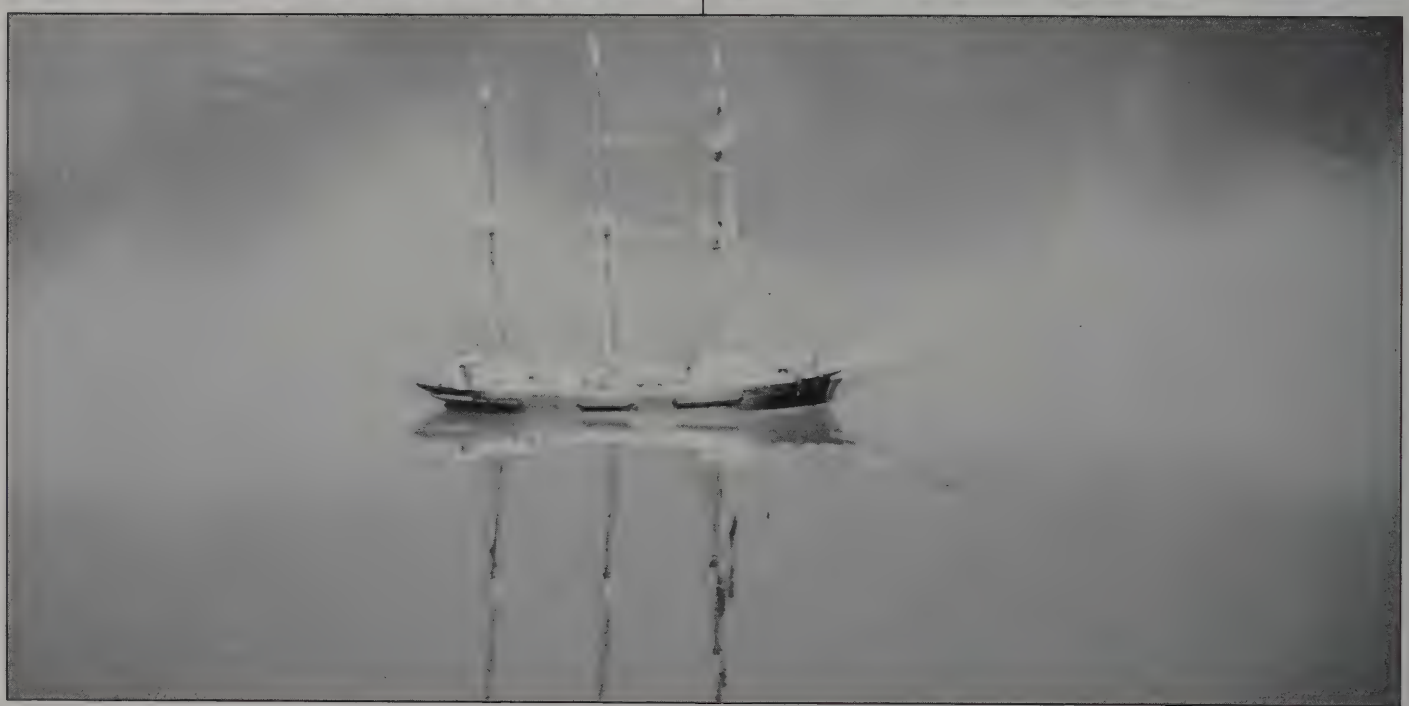
Anchored in Washington Bay. (Peter Bryant)

Humpback whale. (Peter Bryant)

Bubble nets (?) from humpbacks. (Peter Bryant)

Putting out bongo nets. (Ken Balcomb)

Collecting samples for measuring turbidity. (Judy Perkins)



(Peter Bryant)

ent depths, which turned out to be quite informative with respect to the reasons for the distribution patterns of krill and whales.

We expected that the main food of humpback whales in Southeast Alaska would be krill, since this is the main type of food found in the stomachs of humpbacks in the North Pacific. However, humpbacks are also known to be opportunistic feeders and to take several different types of schooling fish including capelin, sardines, cod, herring, and atka mackerel.

Our krill samples contained the expected species *Euphausia pacifica*, *Thysanoessa spinifera*, and occasional specimens of *Thysanoessa longipes*. We were able to keep samples alive in tanks on board the ship, so that we could make observations of their behavior. One of the most fascinating things about krill is their spectacular bioluminescence, and it is all the more interesting because its function is completely unknown. Each shrimp has a double row and a single row of bioluminescent spots along the ventral side of the body, and in complete darkness this row of spots is all that can be seen of the animal as it swims around the tank. Also in our plankton samples was a fascinating collection of strange invertebrates including Amphipods, Ostracods, Copepods, Chaetognaths, Ctenophores, Medusae, Pteropods, and baby octopus. These were quite a challenge for the photographers among us, as *Regina*'s gentle motion caused the water in the tanks to slosh back and forth and the animals to rapidly jump in and out of focus. There are some things best done ashore!

We found that Glacier Bay was practically devoid of krill as well as whales at the time we sampled it in 1979. The average krill count in Glacier Bay was 20 krill/100m3 of water sampled, compared with an average of over 400/100m3 in Frederick Sound. The highest krill count from Glacier Bay was lower than the lowest count obtained in Frederick Sound. High krill counts did not guarantee the presence of whales, however; we found high counts at several places where whales were not observed. Although humpback whales may be opportunistic feeders and might be able to locate large densities of prey, this does not mean that they will always be present at these prey concentrations. In general, the krill distribution in the entire area of Southeast Alaska seems to be quite patchy. The reason for the very low abundance in Glacier Bay might have been the low salinity in this area due to freshwater runoff from melting glaciers. We found the average salinity to be 17.5 ppt (parts per thousand) at the surface and 29.1 at depth. Since krill in general are not found in areas with salinities of less than 28 ppt, we feel that this was the basic reason for the absence of krill from the bay. In contrast, the average salinity in Frederick Sound was 23.7 at the surface and 29.8 at depth— still showing the low salinity at the surface due to meltwater from glaciers, but not to the same extent as in Glacier Bay. Of course, the rate of melting varies from year to year, so that in other seasons this might not be as important a limiting factor as it apparently was in 1979.

The trip down the coast from Alaska to Seattle was quite hair-raising at times. My bunk happened to be just under the shelf where a collection of strange remains and artifacts, including some heavy marine mammal skulls, were being stowed. This was perfectly safe on the port tack but not on the starboard tack! At about 0500h I was rudely awakened by a shillelagh and several other heavy items falling on my head as we came about suddenly in order to avoid some shallows that were causing steep seas. Upon poking my head out through a hatch to see what was going on, I realized that we were in a force 10 gale with a scandalized mainsail, making only 2 knots with the engine roaring at full ahead! Although *Regina* rode storms amazingly smoothly, the lurches can still make moving around the ship quite an adventure. Under these conditions the usual meal schedule is modified slightly—a large can of soup is tied to the mast in the galley, you try to scoop some out as you slide past while trying to keep your balance, then you try to drink some of it and keep it down long enough to do some good!

We concluded that humpback whales may have abandoned Glacier Bay during 1978 and 1979 because of the scarcity of food there in those years. The alternative explanation that was receiving great attention and publicity at that time was that noise from the many cruise ships using the bay was driving the animals out. The Alaska Visitors Association, and others representing the tourism industry, liked our interpretation better and concluded that the Park Service had acted prematurely when they restricted cruise ship traffic in the bay. Of course, there are always many factors that influence animal distribution, and it is quite possible that both factors were important. In recent years the number of humpbacks using the bay has been back up to around 30. An upcoming issue of *Whalewatcher* will include a detailed review of these issues.

To me, any piece on *Regina* is incomplete without at least a few words about George Nichols. George runs a tight ship, consequently a safe one, but he also makes everyone welcome and takes a personal interest in every one of the students. One of the wonderful things about trips aboard *Regina* were the lasting friendships that were formed, and George is responsible for creating the atmosphere where that could happen. George was kind enough to invite me on two trips as guest scientist, at a time when I was (as now!) very much an unknown quantity as far as marine mammal science is concerned. He gave us all an opportunity to see what we could do, and we made some very useful contributions to humpback whale biology. We learned a tremendous amount, mainly from George, about ships and the sea, about whales, but most of all about how to work hard, sometimes under the worst of conditions, and to stay happy while doing it! I would also like to thank Roger Payne for getting me involved in this project, for his inspiration, and for many useful discussions.

Peter Bryant is Professor of Biological Sciences, University of California, Irvine, and served as Scientist on Regina Maris.

Greenland Voyages

by Judith S. Perkins

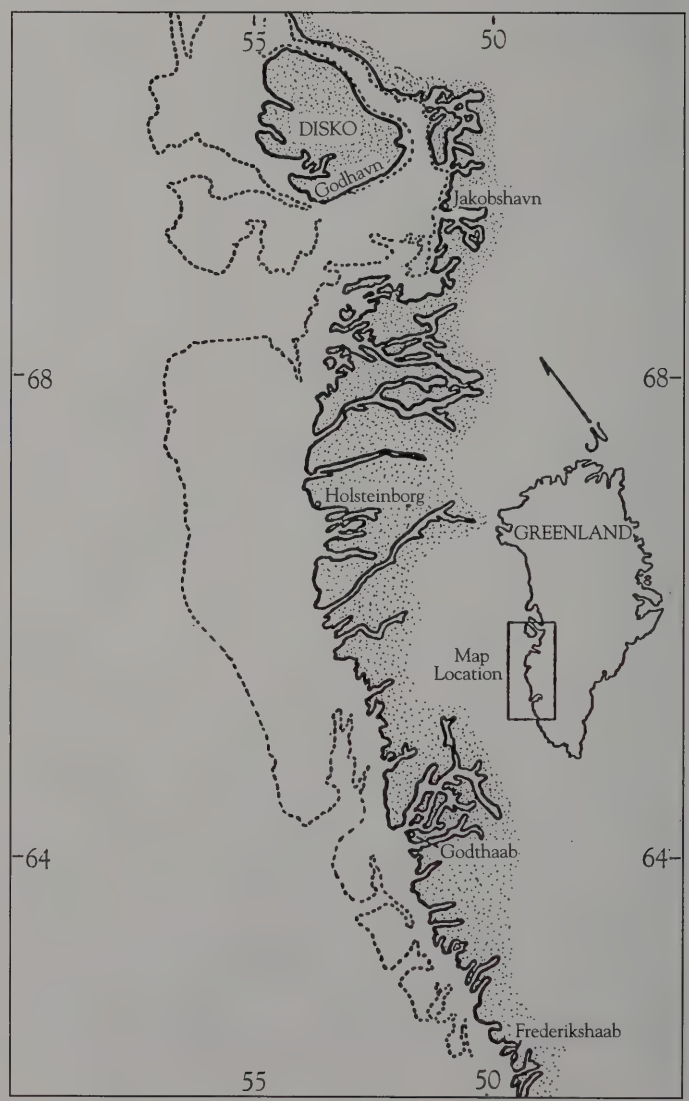
July 10, 1982. Sailing along the sea with only the horizon in view changes one's perception of time and space. One is so accustomed to landmarks. Even the fixes seem to advance along the chart like dice rolls on a board game. In transition from land to sea-shelf. Trying to decipher our position by reading the seascape. Glad to be using my senses again, feel them sharpen, become acute. We caught myctophid fish in the plankton net, so probably we are south of Halifax near the colony of Leech's petrels. Murres and puffins will come as we approach Newfoundland, the potheads in the Davis Strait, then the dark phase fulmars and ice off Greenland.

I remember sailing to Newfoundland in the 1970s and thinking it was so far north, so remote. Now it had become a stop on a journey more than 800 miles nearer the pole. The Davis Strait is one nasty body of water, 1800 fathoms deep, abyssal, with gales brewing and blasting every few days. Somewhere off Cap Farvel, the southern tip of Greenland, the sky changes, the atmosphere thins and becomes crystal clear, the weather patterns change: you enter the Arctic. I always wanted to photograph the Greenland sky, its clouds. There are strange, ghoulish tones layered in a gray collage, always changing, never cumulous, more wispy, lenticular, long washes filtering polar light. Often the sky and sea cannot be separated.

Vast, powerful, magnificent, awesome, and cold are Greenland words. Even they are inadequate. Greenland is an island of extremes: sheer size (840,000 square miles) covered with ice-cap (780,000 square miles); glaciers (the world's biggest is the Humboldt— Jacobshavn calves icebergs every five minutes); vast, deep fjords (Scoresby Sund, King Oscar, Franz Joseph, Sondre Stromfjord); frozen land and sea; carpets of wildflowers; fields of cotton grass; tall, jagged mountains; smooth, rounded glacial valleys; constant daylight and darkness.

The Commission for Scientific Research in Greenland and the Danish Foreign Ministry granted us permission to conduct our three-year research project: to assess the size and distribution of the West Greenland humpback whale stock and to study the local marine environment. The International Whaling Commission, in particular, wanted to know if the annual harvest of 10 humpbacks was appropriate for this stock. As important to us was to teach and make available our techniques for estimating population sizes to the Greenland Hunter and Trapper's Association, which included the whalers. In addition, catch statistics needed to be managed more efficiently and by the Greenlanders because the system of reporting these data directly to Copenhagen meant no one in Greenland knew when and if the quota had been filled. In this educational mission, we were successful only up to a point because, in my opinion, Greenlanders as a culture are not accustomed to keeping records of any kind. Also, we were "foreigners," and whether we made sense or not, we were suggesting how they should manage their resources.

Off Cape St. John, Newfoundland. (Judy Perkins)



(Judy Perkins)

After three summers of tracking along the banks off West Greenland, whose names all of us could rattle off like the alphabet—Store Hellefiske (great halibut), Lille Hellefiske, Sukkertop, Tovqussaq, Fyllas, Fiskenaes, Danas, Frederikshaab—we had estimated the humpback stock to contain about 270 whales and confirmed that the largest aggregations occurred primarily around Fyllas Bank, directly off Godthaab, and secondarily off Frederikshaab about 120 miles south.

We found Sukkertop Dyb (trench), separating Fyllas and Tovqussaq Banks, to be an ecological "hot spot" between 62°-70° N: plankton tows consistently yielded large volumes of copepods (and freezing cold hands); humpbacks, finbacks, and sperm whales were most abundant there. Temperature profiles showed a pronounced downwelling that brought warmer (1.5°-3° C) surface water to depths of at least 50 fathoms. Another fertile area was about 60-70 miles southwest of Frederikshaab, along the continental slope where the cold West Greenland Current and the Irminger Current converge. In 1981 and 1983, the copepod concentration there was immense, chowder-like, and in 1981 we encountered pack ice, where there is often great productivity along its edges.

> *July 15, 1981.* 1105. A white line glows on the horizon—the isblink. This is the pack ice, not in floes but sharp, jagged, melted remains of hummocks. The white is highly visible and reflects light, creating a bright band in the atmosphere just above the horizon. It is a spectacular if not eery sight, awesome in its cold, hard, angular appearance. The most appropriate welcome to the Arctic. The water temperature dropped to 1.5°C from the earlier 5°C and a freezing wind hit us. About the same time four bottlenose whales spouted off the bow and swam toward the ice. Nearer the ice edge, a large bull sperm whale lay at the surface bobbing up and down like a log. When we got closer, it rolled forward and lifted its gigantic flukes and sounded.

In Greenland it was hard to make plans because the weather made them for you. The summer of 1982 could be called "gales, whales, and tails" in that order. In addition to ORES research, two Danes were aboard conducting a minke whale survey between gales, a most frustrating situation.

> *July 30, 1982.* Gale all day long, tipping 50 knots. We've been hove-to for more than 36 hours on Store Hellefiske Bank drifting 2-3k northward. Since 1400 yesterday, the barometer has dropped from 29.74" to 29.35" and is still going down. Last night, I jostled around in my bunk, ship creaking loudly, and went topside at 0345 to make sure things were secure in the lab. We motored away as a flotilla of bergs began descending on us. It was dark and raining, hard to see, so it was a bit hairy. I picked out a few bergs for Ken Edwards.
>
> The seas built up to about 20' with Waikiki crests, mean and big. The roaring seas and howling winds belied the relative comfort down below. *Regina* is rocking us like a cradle on these cold north seas.

Greenland presented another face a few days later.

> *August 3, 1982.* We left Godhavn yesterday at 1930 heading directly for station 3 (on the minke whale survey) again. It was sunny and clear, a lovely day. Ahead, the white fog turned out to camouflage pack ice! In it were some huge icebergs. From a distance, it looked like a white-washed Manhattan. I climbed to the maintop and saw dense pack ice—10/10—a wondrous and frightening sight. Only two days ago we were hove-to right here in a gale.

We learned it was better to find a secure anchorage than sit out the gales because they drained so much of our energy. Our haven from gales on Fyllas Bank was a snug cove, Haabets Ø Havn (Hope Island) at the entrance of Godthaabfjord, where we saw a wolverine and jigged a wolffish whose stomach contained macaroni and cheese, fresh scrapings from dinner!

Were it not for bad weather, we might not have witnessed the extraordinary splendor of Greenland in summer. To me, the coast near Sukkertoppen and Hamborgerland is without rival with its black, basaltic mountains rising 4000' to sharp peaks, wrapped in gleaming glaciers that wind down to the sea. The sight is strikingly beautiful, and when the rosy colors of sunrise and sunset lit up the sky you would feel transported right off the deck.

In Evighedsfjord, Greenland. (Judy Perkins)

The icebergs were also fantastic. They were spellbinding. One of my favorite memories is of an evening in 1981 when we drifted at the mouth of Jacobshavnfjord with young icebergs surrounding us, beginning their long journey across Disko Bay en route to destinations off Newfoundland. Being a Saturday night, we were allowed to have one beer at dinner, reward for the earlier "field day" clean-up. After eating, people brought instruments on deck—concertinas, guitars, violin, recorders, and pennywhistles—and started a concert, complete with dancing, popcorn, and an audience of icebergs.

Regina was an equal match for Greenland's grandeur. She enhanced the scenery. Perhaps what Greenland is to wilderness and elemental beauty, *Regina* is to sailing vessels and the manifestation of human craft. She looked as if she belonged there, among the icebergs, deep in the fjords.

Regina also generated a certain Greenlandic spirit. It became a tradition to celebrate crossing the Arctic Circle by producing an "Arctic Revue." The idea was to dress as incongruously as possible for a parade on deck.

> *July 21, 1981.* Yesterday the "Arctic Revue" was held at 1500. It was a good show, bravely carried out by many bathing beauties and skimpily clad gents in temperatures of 4° C. Baggywrinkle worn as a grass skirt, bathing suits with sou'westers and safety harnesses, and bare legs stuck into Newfie sneakers were the rage. Photos were taken all around and water began to be splashed about. Horrified yells came from Harvey (Oxenhorn), who was clipped onto the main stays'l sheet and unable to escape his cold baptism. "Very refreshing," they all said later, dressed once again in woolens, hats, and boots.

Then there was the official opening of the Greenland golfing season when Al Stearns, accompanied by caddy Root Lieberman in tuxedo, teed off from a bergy bit in Fiskenaesset Harbor. As the ice drifted closer to land, Greenlanders took pictures of Al swinging his club. Another year, John Calogero skied down the glacier in Evighedsfjord, and Richie Perkins windsurfed among growlers at the foot of the glacier.

In the fjords we found exquisite wildflowers—campions, saxifrages, harebells, azaleas, fireweed, 3–5 inch willow and birch trees branching horizontally along the ground, meadows of yellow poppies and cotton grass, which the Inuit used to insulate their boots and to make wicks for their seal oil lamps. There were moraines of all kinds, glaciers with meltwater streams flowing underneath, and views that appeared deceptively close when they were 10 or 20 miles away. Between bog and bug, we saw an occasional fox, hare, peregrine, nesting jaeger, and caribou; an occasional Inuit fishing camp and ruins of old Norse settlements.

In the towns we explored and indulged in local offerings. The sight of unfamiliar things and bizarre contrasts from the mix of indigenous and European cultures remain in my mind most vividly. There were walrus skulls airing on top of tool sheds and whale entrees on hotel dinner menus. You could buy steak tartare and frozen raspberries from Denmark in the supermarket or muktuk, blubber, intestines, seal meat, loons, kittiwakes, and other country food at the open market in Godthaab. Four story apartment complexes had slabs of fish and other meat hanging from the windows. Seal skins stretched on frames adorned the balconies along with racks of caribou antlers and various furs. In larger towns, not only were there taxis, but they were Mercedes, Volvos, and Audis!

We would grow weary from the excesses of town life and like true nomads were ready to go back to sea. *Regina* was a welcoming home: there was always a pot of hot coffee on the stove, good food, wool mittens and socks lining the radiator to dry in the main cabin, someone writing in a journal, people napping in bunks (red curtains closed) or reading (red curtains open), the unmistakably delicious smell of pine tar in the focs'le, the familiar rock and roll of the ship, the quiet of the panelled, red cushioned aft saloon and its "home sweet home" lantern hanging above the table, and a thousand other things that were part of *Regina*.

We worked hard those Greenland summers and found ourselves rewarded in many, many ways. It was a tremendous privilege just to be there and to sail where so few people have been before. I remember an afternoon on our way home, when *Regina* seemed to blend so beautifully with the life and rhythm of the sea, and I thought how all of us on board had adapted to this motion and now moved so naturally in tune with it.

> *September 3, 1982.* We're racing along at 6-7k under sail with SE winds, passing the Newfoundland coast about 70 miles offshore of the Funk Islands and Cape Freels. The seas are choppy but the ride is smooth. I'm sitting on the windward side beside Doo's bait locker and the pilot house, watching hundreds of shearwaters and some fulmars and kittiwakes soar gracefully, bank and arc skyward then dip low again. The quarter deck rail rises and dips in rhythm with the birds, a perfect duet.

Regina seemed to change everyone who lived and worked aboard her, to stretch them in positive and compelling ways. Kim Smith once said to me, "*Regina* has good karma." She drew people to her and held them in her grip. As one of those victims, I will always treasure my voyages on *Regina* with deep gratitude. Thank you *Regina*, thank you George.

Judy Perkins served as an Instructor for ORES and a Scientist aboard Regina Maris. *She is now a Research Associate with Long Term Research Institute, Lincoln, Massachusetts.*

(Judy Perkins)

The Royal Yard

by Hal Whitehead

Censusing humpbacks on Regina's *royal yard.* (Hal Whitehead)

Regina had many special places, and in each there was a different way to see the ocean she sailed. Down in the net below the jibboom the dolphins broke the surface to blow an arms-length beneath, keeping station. The top of the mainmast, *Regina*'s highest point, was the best place to measure icebergs. If one of those Labrador icebergs reached above the horizon, it was over 30 m tall. But, for me, the most special was the royal yard. The royal was the highest squaresail on the foremast, and the royal yard was the horizontal timber from which it hung.

The attractions of the royal yard included its height above the sea and remoteness from the rest of the crew down on deck. The royal, the smallest squaresail, was the easiest and most satisfying sail to furl alone. The royal yard was also a fine place for watching whales. Throughout the winters of 1978 and 1980 two of us would sit on the royal yard as *Regina* sailed transects across Silver and Navidad Banks, the breeding grounds of the humpback whale in the West Indies. Sitting on the yard, one each side, our backs against the foremast, we scanned for humpbacks. We saw breaches in the distance and tiny calves nestling by their mothers' sides, we saw the dark green coral heads of Silver Bank, and the spatial patterns of the whales scattered over this strange remote patch of ocean but, back-to-back, we did not see each other.

As we censused the whales we often talked. Our positions on the royal yard dispensed with the ambiguities of eye contact, and there was nothing else to do but watch and count the whales. Some of those I censused with on the royal yard have been friends ever since. Like Kevin Chu who showed me how to tie a notebook onto my belt, and stopped the steady rain of census data fluttering down. Kevin and I have sailed together many times since. But at times people from different worlds would share the royal and talk. Where else would I, a British graduate student, be likely to meet and talk with Trucky, an electric guitarist from the Tennessee hills?

The royal yard gave a unique view of the whales. It swayed slowly far enough above the ocean to allow a view of overall pattern. It was there that I pondered the hypothesis that a humpback breaching in one area might provoke another to breach a few thousand meters away. The data we collected from *Regina*'s royal yard allowed me to test this breaching-begets-breaching hypothesis, as well as to estimate humpback population sizes, examine changes in group size, and look at the spatial patterns of whales.

At times when we were not censusing, the royal yard gave a distance from the research. As George Nichols maneuvered *Regina* for Ken Balcomb to take fluke photographs I would climb to the royal, and watch the whales as a human, not a scientist. Far above, I would try to find a perspective on the research, the extraordinary animals we were studying, the wide ocean and, of course, the great old wooden boat on which we lived.

Hal Whitehead served as Scientist on Regina Maris *and now is Assistant Professor of Biology, Dalhousie University, Halifax, Nova Scotia.*

A Big Fish Story

by Gregg Swanzey

On July 29, 1981 we sailed into Itividley Fjord, Greenland just a couple of days after leaving Disco Bay on our trip south. We anchored in a shallow arm of the fjord within easy reach of glaciers, mushrooms, mussel-beds and a freshwater lake full of Arctic char. There was an Inuit family set up for the summer to dry the char which they caught in weirs in the stream before it ran into the fjord.

Captain George Nichols and I, in anticipation of the possibility of capturing and eating some Arctic char, both brought our fly fishing rods and an assortment of flys. We took off for the lake as soon as the anchor was down. George proceeded to hook three char, much to my frustration since I couldn't get anything to come near my hook. He was rightly proud of his catch.

I decided to try my hand at salt water fishing the next day. Patrick Wadden, Brenda Ashly, Harvey Oxenhorn and I went out with cod jigs and reels of monofilament in the jolly boat to the nearest drop off of the bottom—I had checked it out on the depth finder as we came in. We got our gear ready and drifted over the spot as we jigged.

We did pretty well, caught lots of medium-sized cod and pollack and finally decided on one last drift. The lines went out and soon mine hooked the bottom—or so it seemed—but a steady pull got results. This was the biggest fish I had ever hooked! He ran a couple of times and I took a couple of turns around the thole pins to tire him. We gasped at the huge shape which appeared below the boat!

He broke the surface. In the excitement I nearly went overboard to grab him by the operculum and the cod jig. Harvey grabbed me by the belt as Patrick picked up an oar to whack him. The boat tipped to the gun'l as we rolled and that fish slid in. We lashed him tail and head.

A 54 inch, 100 pound halibut was hauled on board *Regina* with the boat falls. That fish fed the boat for three meals!

George and I each had gotten the fish story we'd come to Greenland for.

For a year and a half, Gregg Swanzey was First Mate on Regina Maris. *He now lives in Kingston, New York.*

Gregg Swanzey's big fish. (Kathryn Kelly)

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A Step Back in Time

by Nicola Wadsworth Bloedel

(Judy Perkins)

Stepping aboard *Regina Maris* was like stepping back in time. Sailing aboard her provided a glimpse of yesteryear, when tall ships were popular vessels. No wonder so many of us read the ship's copy of Sterling Hayden's *Voyage, a Novel of 1896* with such relish. Of course, we had a much easier time than the crew aboard *Neptune's Car*! Thank goodness there weren't any Otto Lassiters aboard the *Regina Maris*! Instead we were a group of people enjoying our time at sea, enjoying life from decks of a three-masted barkentine, out on the North Atlantic.

Regina Maris was my home for a period of 12 months spread over two years. I arrived as a student, returned as a deckhand, and came back another time as ship's cook.

I first boarded *Regina* as she was tied at the New England Aquarium's dock in Boston, in October 1982. I was a student on the Expedition 42 trip (Boston to Puerto Rico via Bermuda and the U.S. Virgin Islands). There was so much to learn that first time—the names and positions of the rigging, the navigation, the stars, general seamanship (like tying a good knot!), getting used to the watch schedule, and naval time. Not to mention learning how to pump the heads properly! Then there was "boat talk," like saying "down below" instead of "downstairs." Any difficult chore on board was called a "character building experience"—fixing a plugged up head; shaking the anchor chain back into its locker; standing a watch in wet clothing. My student trip was one of the last trips done with all the classes held on board, so we had to deal with watch schedules and class schedules, sometimes together, while underway.

As a deckhand (January to May 1983) I enjoyed teaching students about seamanship aboard our proud vessel. I was in great shape with all the yard climbing and sail maneuvering that we did. Of course, as a deckhand my arms got terrific workouts keeping up with the sanding, rust-busting, painting, and varnishing. We seemed to start at the top of the worklist, work our way down it over the weeks, and at the end of the list we'd have to start back up at the top again. The sea doesn't allow any bright work to last for very long.

We had the best cook on board while I was a student and deckhand: Danny Bareiss was his name and it was his first time cooking on board a boat. It was no small feat preparing our meals in *Regina*'s galley, dealing with a temperamental diesel stove/oven. I know, because for five months (January to May, 1984) I was *Regina*'s cook. It takes a lot of energy to prepare three meals per day (sometimes two sittings per meal), seven days a week for the 35 people on board.

The day usually started off at 0530h with kneading dough for six loaves of bread. Breakfast was always a big meal to get everyone going, although if you snoozed through it you lost out on having it. No sooner had the dishwashers and the galley slave finished up than it was time to start on lunch. I usually could get a mid-afternoon break which meant a nap in the jolly boat (I couldn't be seen from the deck, at least) or whalewatching. I was lucky enough to have an assistant, Julie Hoffman, which made things considerably easier. Working together, we would be able to crawl off to our cabin by 2100h. Planning the menu and stocking up the boat was always a treat. We had to make

sure that there was enough of everything because if we ran out of something, there wasn't a grocery store out on Silver Bank. Our buying trips in Puerto Plata (Dominican Republic) quickly improved my fluency in the Spanish language.

When I was the cook I did miss being a deckhand. There was nothing better than climbing the yards to furl sails. I was surprised to read in the early pages of my journal that I dreaded the thought of going up in the rigging at night. That quickly changed! As a deckhand I always volunteered to go aloft to overhaul the buntlines—which meant hanging onto the yards "by your eyelashes!"

My fondest memories of life aboard *Regina Maris* include:

Watching for the green flash as the sun set while anchored out on Silver Bank. One time, just as we saw the green flash, a humpback whale breached near the horizon, appearing to leap over the setting sun. And, if that wasn't enough, a second and a third whale breached right after that, a little closer each time;

Climbing aloft to furl the Royal under a clear, starry night in a warm breeze;

Riding through the streets of Puerto Plata on a donkey cart while buying supplies for the ship;

Trying to chop out the next night's dinner (frozen chicken bodies) in the pantry freezer with a crowbar because the freezer's crushed ice melted when the ship's power was off for awhile and when the power went back on the ice froze in one solid block: This happened more than once and required my climbing into the freezer locker, wearing a pair of shorts, a T-shirt, and my gumboots, wielding a crowbar to get the meat out. This method resulted sometimes in little hack marks on the meat served—a source of amusement for everyone at the table;

Riding out the gale off of Cape Hatteras during our sail north to Newport, Rhode Island in April 1983. For three days we were violently tossing and rolling around. We had the hand pumps going on the deck; we lost our windsock and anemometer up on the masts; we lost a plank up near the rail and a door in the bulwarks; the engine door tore off; and the lower topsail (squaresail) tore to shreds. You name it—it went crazy, and we SURVIVED!;

Last but not least, seeing my first whale ever— a humpback sighted NW of Navidad Bank on January 11, 1983 at 0914h. It breached not two miles broad off the starboard bow and I was, to say the least, impressed.

Nicola Wadsworth Bloedel—student, deckhand and cook on Regina Maris*—is now a portrait photographer in Seattle, Washington*

Touching up Regina*'s figurehead.* (Helene Knox)

Learning the Ropes

Photos by Judith S. Perkins

From Students...

(Peter Bryant)

A Dream Made Real

Beware of love, for it is a wide, wide sea;
Beware of the sea, for it is a wide, wide, love.
—Madriaga

At some point in my early youth—quite when, I don't recall—I developed an overwhelming urge to put to sea on a tall ship. My mother had just read John Masefield's wonderful poem *Sea Fever* to me, and it conjured in my mind wildly romantic images of sea and sky, elements with which I was already hopelessly in love. I was both disappointed and somewhat surprised when my parents obstinately refused to allow me to leave home in search of a suitable vessel, stating (with, I felt, unnecessary conviction) that I was only nine years old and still had to finish my schooling. This seemed to me an exceedingly unreasonable argument; after all, I could read, write, and count—good lord, I could even multiply by nine and swear in French—what more did one need to make one's way in the world? But my earnest pleadings made no impression whatsoever on the firm rock of parental will, and I remained incarcerated at home, consoled only by the fact that it was at least a home by the sea.

In subsequent years, my notions of sailing away on a square-rigger developed into the sort of untarnished fantasies that are the possession of childhood, and of childhood alone. I read a good deal about tall ships, and once in a while I would catch a glimpse of one sailing up the English Channel, on whose shores I lived. The remoteness of the image—a ship in the distance, moving silently and magnificently under full sail—somehow reinforced the mystery and romance of the idea for me, and I longed for the time when I would be of an age to set sail for distant lands. But as the years went by, I began to learn the sad and inevitable lesson that what seems perfectly possible to the nine year old is not always attainable for an adult living in the real world; and while I never abandoned the fantasy, it slipped quietly into the abeyance of a seemingly far horizon. In a way, I thought, it was perhaps just as well. For I had also learned that, on the rare occasions when a fantasy made the successful transition to reality, it was generally not quite as rosy as imagination had made it appear. Perhaps sailing on a tall ship wouldn't be so great after all: it would probably be wet and cold, and nausea would in all likelihood be a prominent feature of one's existence. There might even be rats. To my mind, large evil rodents and repeated bouts of throwing up were hardly the stuff of which dreams could be fashioned.

By the time that I was given my first chance to sail aboard *Regina*, in the spring of 1983, I was already familiar with her near-legendary status as a research vessel. I had seen her from afar a couple of times, and the sight had briefly rekindled the embers of the old dream. I had always had a soft spot for Baltic traders, those fine old workhorses of the boreal seas; true, they lacked the stylishness and transcendent grace of clipper ships, but there was a steadfast quality about them, a sense of endurance and dignity that quietly commanded respect. I looked forward to the trip—a week's excursion to the Great South Channel southeast of Cape Cod—with much excitement and not a little trepidation. After all, a fantasy that had been nurtured and cherished for many years was finally about to be tested.

When I first stepped aboard *Regina* in Newport, Rhode Island, I can honestly and unequivocally say that it was love at first sight. I was immediately infected with that widespread and thankfully incurable condition that Perran Ross once termed "*Regina* fever." The cruise itself was not what could be termed a great success: Great South Channel in May is known for fog, gales, and cold, and we had all three. Much of the trip was spent in vainly trying to escape either damp, cold conditions or the cheery sight of a variety of people losing a variety of meals at a variety of unpredictable intervals. But despite the less-than-auspicious circumstances, I was extremely content, happy just to be there and to find that, cold and vomit notwithstanding, the experience was as romantic and as moving as I had imagined it might be. The trip home, made in a gale, was particularly memorable: *Regina* heeling to port as we ran through the night, her deck ablaze with phosphorescence every time a wave washed across it.

My second trip aboard *Regina*, in early 1984, remains in my mind as one of the most stimulating experiences of my life. David Mattila and I were conducting a cooperative study, with ORES and the College of the Atlantic, on Silver Bank, studying the population composition and habitat use of the humpback whales that winter there. A more magical setting could hardly be imagined: sixty miles out to sea in a magnificent reef system, companioned by nothing more—and nothing less—than sea and sky and some two thousand whales. And there were memories to match: during daylight one could find oneself sitting forty feet out on the bowsprit, or high up in the rigging, watching *Regina*'s bow cutting through water of purest aquamarine. Nights were no less enchanted: lying on the foredeck, in darkness utterly uncompromised by any artificial light, gazing in wonder as the slow sway of the masts swept across the blazing star fields above. It was a wonderful time, and for much of the cruise I felt as if I was alive and awake in a dream of my own making—which, in a very real sense, I was.

The generosity of George Nichols in allowing so many people to experience *Regina* was, I believe, a gift whose value cannot be overestimated. Without her and the work of the many people—scientists, students, and crew—who were fortunate enough to find themselves sharing a small part of her long life, we would know a great deal less about whales than we currently do. And, as important as this, was the gift that *Regina* herself was able to give—for magic is hard to come by in these modern times of ours and *Regina* was magic in the making.

Phil Clapham is with the Cetacean Research Program, Center for Coastal Studies, Provincetown, Massachusetts.

A Life-Changing Ship

My experiences on *Regina Maris* literally changed my life. I had never been on a boat before I joined her in 1981 and have been working as a professional sailor and captain ever since. In those years my fondest memories of sailing, from two weeks of daylight to green flashes to beautiful night sails (still my favorite time to sail) to many, many whales and dolphins to golfing off the stern, are of times on *Regina*. To date the most awesome experience of my life and my most often told story is freediving with a 40' (or so) humpback on Silver Bank and being eye to eye for what seemed at the time as an eternity within a distance of 20' of the eye (almost touching the flipper's tip). Until then I had thought that the "sense" that others had told me of when in close proximity to these phenomenal creatures was hogwash. I have never felt threatened or seen what I thought was threatening behavior from these animals. They are amazingly forgiving of our terribly inhumane acts towards them.

Even after 11 months of personal experiences and new places, the most incredible occurrence aboard *Regina* was the repetition of exciting, active, quality people which I will never forget and for whom I will never cease giving thanks for helping my (sometimes slow) maturation. All of my experiences, without exception, were positive and all of those people, without exception, made definite, sincere, positive, and mostly major contributions to my development. When I find myself in the position of instructing, the major point I try to convey to my student is what I was taught on *Regina Maris*—and that is to never stop learning, and to try to be constantly aware of learning something at all moments in time.

Earl Henderson
Annapolis, Maryland

(Ken Balcomb)

Journal Excerpts

The First Day

On our way to Gloucester from Boston. We've plunged right into the thick of it all, and though the jungle of anonymous lines seemed overwhelming last night during our brief orientation watch, after handling some of them it immediately becomes less frightening and more friendly. This morning the watchmate took us together on our watch to familiarize us with some knots, then we checked our safety harnesses in preparation for our first ascent into the rigging.

While the onlookers from the party-boats and pier provided us audience, we swung over to the shrouds and fearlessly clambered up... up the ratlines, over the little platform, and on further to the upper topsail. No problems. Until you look down, and that first jolt suddenly makes your knees just a trifle rubbery. It seems precarious with just that little footline between you and the next spar, and for a few tense seconds while you get yourself under control, you wonder if you'll succeed for two months.

Watch Schedules

We were divided up into "watches," with a watchmate and deckhand for each group. Ours is the Fore Watch (the other two being the Main and the Mizzen). While on deck during a watch we were responsible for standing lookout, doing the logs (engine and environmental), taking a turn at the helm, watching for whales, etc., being available for sail handling, etc. The watch period ran four hours, with one hour at each assigned "station" until late afternoon, when there were two "dog" watches, each two hours long. This broke up the rotation so that the same group would not always be standing watch during the same time slots. A really long day would be one when you started out at midnight, standing watch till 4 a.m. You'd then be back on deck at noon till 4 p.m., then *again* from 8 p.m. until midnight. One particularly pessimistic entry, no doubt written during a "long" watch day, read: "Isn't it astounding that we paid so much money to stand out in 4 degree weather, with the rain battering our faces, the cold water seeping through cracks in our warm clothing and making our mittens sodden, winds lashing out and throwing showers of frigid seawater over us? Isn't it astounding?? My scarf and mittens still haven't dried out from this morning at 4:00, when the six of us, dripping and exhausted, ponderously lowered ourselves back into the cozy womb of the main salon." (Of course, the one advantage to the long watch day was that once it was done you got to enjoy a full night of uninterrupted sleep—no small luxury!)

Climbing Aloft

This morning, after being relieved at the helm, we handled some sails, and then Joan, Clay, and I went aloft to overhaul. This maneuver involves climbing into the rigging in order to feed out some slack on the bunt and bunt-leach lines. I managed to scramble right up and out into the first three yards, but on up to the t'gallant I ran into a small problem. A little "deck" projects out over the ratlines, but the distance from the last rung of the ratline to the next foothold was too far for my short legs, and in my bumbling effort to pull myself up, I slipped, and for one or two heart-stopping seconds was hanging, unclipped, by one arm and one leg. Despite the overly vivid images coming to mind of my crumpled body sprawled all over the deck below, I caught my breath and moved up, but was considerably shaken. On the way back down, I found a nice solid point to clip my safety harness into before letting myself out and over that ledge again. God, sometimes I wonder what in the world I was doing way up there, anyway.

Food

Another peculiarity of shipboard life is ocean-going jello. Al has made jello a couple of times now, but it never gets quite the way it ought to. Usually it freezes and separates, so you get liquidy blobs mixed in with large flakes of ice. Actually, it doesn't taste bad at all. Last night we had strawberry jello with apricots and pears in it, and whipped topping. After people had had their spoons in it digging around a couple of times it got pretty funky looking, so someone dubbed it "Red Tide."

"Starboard List" brownies—everything on board tends to exhibit special little oceanic quirks; jello, cakes, brownies, anything that has to sit awhile while cooking usually comes out slanted in the pan, one side shallow and the other side deep, depending on the list of the ship.

Sounds

This old lady makes more of a racket than anything I ever heard. The creaks and cracks and thumps and bangs and knocks are enough to wake the dead. It's a measure of how tired we all get that we can even sleep through such a din. Every now and then you wake up in the dark of your bunk, and it sounds like all Hell breaking loose around you—wood creaking, pots and pans bashing around in the galley—you wonder if *Regina* has collided with the world's biggest iceberg, and you start remembering where you stowed your survival suit. Of course, there's never anything amiss, and George's words come back to reassure you before you doze off again: It's a ship that doesn't creak in weather that you ought to worry about.

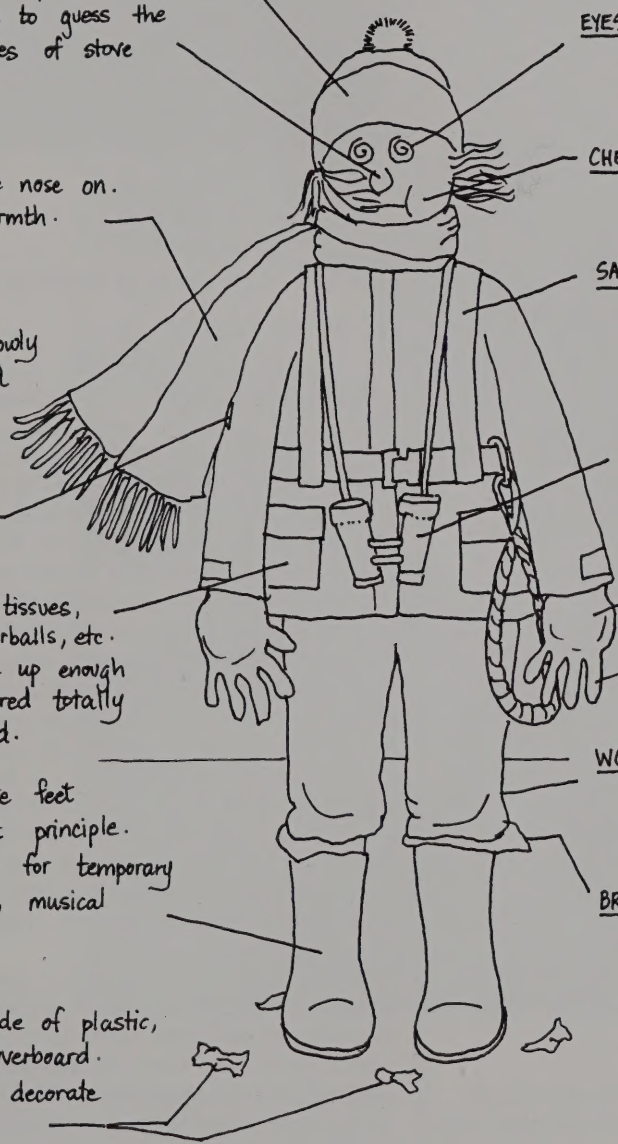
Laughter

One of the nicest things about this trip is the laughter. There's so much of it, it happens so often—not a meal goes by without some instance of hilarity, not a day passes that you don't break up laughing at something. Of course, there are certain people who tend to instigate it, but there's no lack of wit among the rest, and often one remark is enough to catalyze an entire chain of jokes and one-liners. It's probably a good thing, especially with so many people living together in such close quarters for such a long period of time.

Kathy Kelly
Katonah, New York

☆ THE LOOKOUT

(NORTHERN SUB-SPECIES)



HAT - to conceal unwashed hair. Also used for warmth.

NOSE - usually red, runny, or both. Used for breathing, and to guess the meal from the fumes of stove exhaust.

SCARF - needed to wipe nose on. Also used for warmth.

TEAR in raingear, to slowly let in enough frigid water to make wearer totally miserable in wet weather. (Location varies)

POCKETS - for storage of tissues, old log readings, sourballs, etc. Said items will soak up enough leakage to be rendered totally useless when needed.

BOOTS - Leaky. Insulate feet using the wetsuit principle. Can also be used for temporary storage of pipes, musical instruments, etc.

CANDY WRAPPERS - made of plastic, so not thrown overboard. Instead used to decorate deck.

EYES - bleary, from lack of sleep, ice blindness, wind, recently ingested coffee, etc.

CHEEK - filled with old sourball, clogged with toffee, or a plug of tobacco.

SAFETY HARNESS - to prevent being blown off deckhouse in gales; also, to prevent falling onto deck after falling asleep.

BINOCULARS - used to distinguish buoy lights from celestial bodies. Also used to locate mate on watch.

GLOVES - used to cover bunched-up fists in cold weather. "Fingers" can thus be used to store spare change, candy, etc.

WOOL PANTS - several sizes too big to accomodate long underwear, and ever-increasing girth of wearer.

BREAD BAGS (plastic) - to protect feet from leaks in boot. Whole grain breads preferable.

SHOWN HERE IS THE NORTHERN SUBSPECIES, FOUND IN COLDER LATITUDES. COLOR IS PRIMARILY YELLOW OR BLACK IN WET WEATHER, AND VARIED IN DRY WEATHER. CALL: A SHRILL "ONDECK-ONDECK" WHILE ALTERNATELY FLAILING AND POINTING WITH UPPER APPENDAGES.

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Greenland 1983

The ORES Greenland 1983 expedition aboard r/v *Regina Maris* to evaluate whether the West Greenland feeding stock of humpbacks could withstand continued aboriginal whaling was a journey of firsts. First of all, only hard-core whale fanatics or cold-loving masochists would choose to endure their "summer" in sub-zero temperatures. Yet a diversity of people was attracted to this atypical expedition.

The ever-faithful mascot of our motley crew was a plastic pink flamingo on a stick. Feeling and acting as if we were trail-blazing pioneers, we planted flamingos at the heads of glaciers, at the foot of a fjord, at the base of an ice-carved mountain—desolate and pristine places where it seemed no one else had reason to come before us. We claimed these territories under the auspices of *Regina Maris* in the name of the Pink Flamingo.

It was also a journey of personal firsts. Third mate Richie Perkins' windsurfing expedition in front of the womb of a massive ice-blue glacier, weaving his sails through the iceberg maze, new icebergs being calved before our eyes, the kittiwakes swarming over waters upturned by the explosive splashes. Al Stearns, the cook, and John Calogero sleeping with their skis crammed into their tiny bunks to be the first to ski a remote snow-capped fjord island. Then, after ice-climbing our way up treacherous glacial fissures, the entire crew tee'd off at the crest, shooting our balls wildly toward the sea-valley far below us, *Regina* a mere dot testifying to our climbing feat, our ever-faithful flamingos watching over our freezing martinis. Crazy Eric Hutchins "dipping" into a 2° C iceberg pool, a frozen smile of defiance and victory pasted to his blue face. Then perusing the backstreet markets of the capital of Gotthab among the toothless grins of the native Eskimos while they gnawed on muktuk and other nameless, shapeless delicacies.

For me the entire experience was a first: furling sails at 70 feet, crossing open ocean in a storm, being mesmerized by voraciously feeding humpbacks. But my lasting first was the incredibly vitalizing and addicting energy created by the people of ORES—absorbed through my pores to the depths of my soul. My experience with ORES was the most influential and rewarding experience of my life, both personally and professionally. It still inspires me as I continue with the adventures of whale science.

Mari Smultea
Moss Landing Marine Laboratories
Moss Landing, California

(Judy Perkins)

Rescuing Survivors with *Regina Maris*

Regina was anchored on Silver Bank after a day of chasing humpbacks, and it was Saturday beer night. I was taking my time finishing my beer and apple pie when Jake, a deckhand, called down the skylights, "An SOS signal! Come quickly!" I sprang up on deck and saw the small white light flashing its infamous message. Everyone was on deck, and the crew were putting the Avon skiff over the side with the cargo boom. Mark, the big engineer, and I jumped in. We motored around to the other side of the ship, and in the darkness of this blustery night *Regina*'s powerful spreader lights lit up a strange scene.

A crowd of students, scientists, and crew were leaning over the side, looking straight down at several fifty-five gallon oil drums lashed together with yellow line. When we came alongside the ship I realized they were looking at a small, round object in the water. It was a man's head!

Suddenly the situation had become very real. These drums were more than floating garbage; lashed together they made a make-shift liferaft, and the attached white styrofoam cooler filled with spam, cigarettes, beer, and soda were the survivor's provisions.

As I helped this man get out of the water, other arms reached down and pulled him on board *Regina*. Mark and I climbed on board *Regina* and there on the settee sat two heavy-set men whose faces looked tired and bewildered. Several crew were putting blankets around them. They had been in the water for 15 hours, since early that morning when their 40' motor boat had hit Silver Bank's windward reef on a passage from Miami.

Richie Perkins
Topsfield, Massachusetts

Updating the Log

Even as this issue of *Whalewatcher* came together, *Regina*'s history continued to evolve. While docked at The Boston Marine Works in East Boston, where she was undergoing routine refitting and hull inspection in anticipation of being drydocked for the winter, on the night of January 15, 1988 *Regina* sank in 30 feet of water. Two of her three masts were broken and there was no sight of her hull or stern from above the water. Suddenly the plan of *Regina*'s owners, the O'Connell Management Company, to restore her as a restaurant at Marina Bay became questionable.

But on April 1, 1988 (Good Friday, as it happened—though several wags observed that it should have been on Easter) cables were laid around *Regina* and two large cranes slowly raised her to the surface. She was led by tugboat into drydock where the remaining water was dispersed, and where damages will be assessed and necessary repairs made. She is scheduled to return to Marina Bay for the summer season, where she will resume her role as a landmark in that harbor.

During the voyages of *Regina Maris* and the years of operation of the Ocean Research Education Society (ORES) many biological specimens and educational materials were gathered. These are still helping students today. Following the closing of ORES, some specimens, books and equipment were donated to schools in the Gloucester, Massachusetts area where ORES had its headquarters for several years. The collection of recordings of underwater sound were donated to the Center for Whale Research in Friday Harbor, Washington, which is directed by Ken Balcomb. Much of the remaining material, including collections of plankton and other marine organisms, laboratory equipment, books and journal reprints, went to College of the Atlantic (COA) in Bar Harbor, Maine. Among the materials sent to COA were the scientific logs from *Regina*'s voyages. Anyone needing to consult or use those logs should write to Steve Katona at COA.

(Judy Perkins)

Readers should watch for the publication of *Turning the Rig*, a recently completed book about *Regina Maris* by Harvey Oxenhorn. A narrative based on *Regina*'s first expedition to Greenland, the book interweaves accounts of sailing, science, and the nature of life on board with personal meditations. Its cast of characters includes some of the people who have written for this issue. The book is expected to be available some time in 1989.

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